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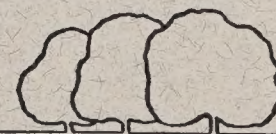
THE CITY OF WOODLAND

DOWNTOWN SPECIFIC PLAN

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VOLUME II • OCTOBER, 1992

THE CITY OF WOODLAND

DOWNTOWN SPECIFIC PLAN



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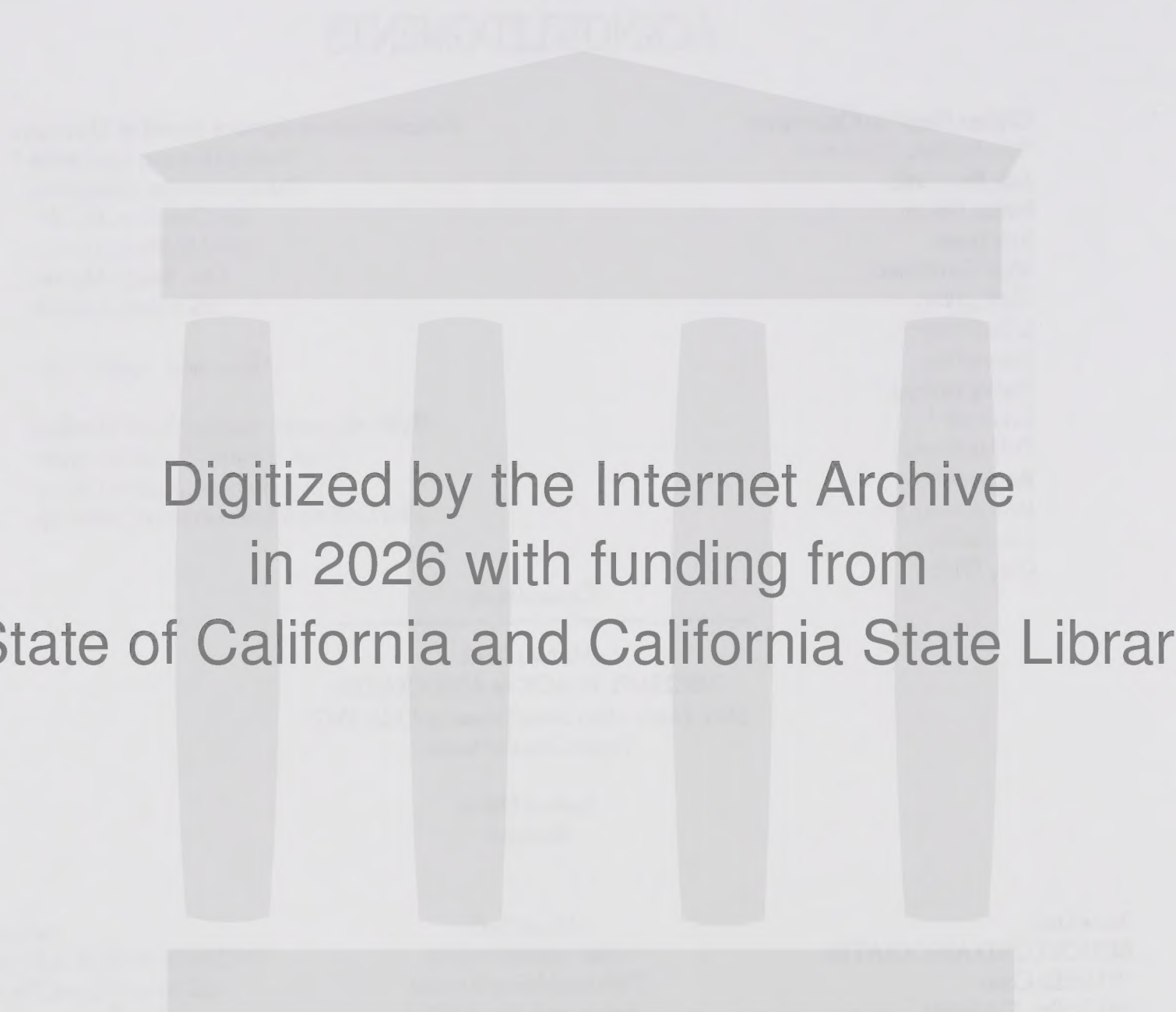
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SECTION I

DOWNTOWN ECONOMICS

REVITALIZATION, POTENTIALS & PRESCRIPTIONS

CITY OF WOODLAND, CALIFORNIA

Revised June 3, 1992

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DOWNTOWN ECONOMICS

I. INTRODUCTION

This study provides a review of the economic development outlook for the City of Woodland downtown. The downtown has suffered from neglect over several decades as Woodland expanded to the south and west and new commercial centers followed in the wake of new housing development. The downtown suffered further shocks in 1986 with the development of the County Fair Mall regional shopping center, and again in 1990 with a major and protracted U.S. economic recession. But it is beginning to make a comeback. The City is presently engaged in development of an updated Special Plan for downtown, which is expected to lead to a major physical upgrading in the appearance and character of the area. This report reviews the private investment potentials in the area and suggests public actions necessary to encourage future investment.

The report is divided into three principal sections. The first examines demographic and employment trends in Yolo County, to provide a context for understanding potentials in Woodland's downtown. The second section analyzes support levels for additional retail and commercial office space downtown. The third section discusses the economic implications of a variety of private sector development possibilities in the city's central area and suggests measures for remedying potential development constraints downtown.



II. THE SETTING

Revitalization of the Woodland downtown is tied to continued expansion of commercial activity in Woodland as a whole, and that growth relies in turn on continued growth in the region the community serves. This section examines regional population, employment and income trends.

POPULATION PROJECTIONS FOR THE REGION

As will be seen, Woodland is a retail and commercial service center for wide geographic area, not just its own residents. The actual extent of that service area, and the total population potentially served, varies, depending on specific activities. As the county seat for Yolo County, Woodland provides governmental, legal and other professional services for the entire population of Yolo County. The population in the county, as can be seen in Table 1, was 139,940 in 1990, and growing rapidly. Some of Woodland's retail centers serve populations as far away as Sutter and Colusa county, and the eastern half of Solano county, as well as much of Yolo County. The combined population in these areas was approximately 160,000 in 1990. Potentially, Woodland could serve the rapidly growing population of Sacramento County, with its one million residents and a growth rate of 30,000 persons per year.

Population in Woodland was 39,600 in 1990, an increase of nearly 10,000 over the previous decade and a very strong 2.8 percent growth rate. By comparison, the State of California grew at a rate of 2.5 percent during these years, and the U.S. by .9 percent. Woodland accounted for 35 percent of Yolo County's 27,800 population increase. These data may be seen in Table 1.

The cities of Woodland and Davis together attracted 70 percent of Yolo County's total population additions between 1980 and 1990. The unincorporated areas accounted for 13 percent of new population

and West Sacramento, which was incorporated in 1988, and Winters had the balance. Hence while growth was rapid during these years, it was also taking place in a comparatively orderly or logical path, concentrating mainly in the developed communities. Woodland and Davis ended the decade with 61 percent of Yolo County's total population, up slightly from 59 percent in 1980.

In the 1990's, Woodland and Davis are expected to share the county's population growth with West Sacramento. Incorporation has dramatically changed both expectations and ambitions there. Armed with some new tools, the community is actively seeking development, particularly of its riverfront, and has initiated reuse of much of its industrially-zoned land for residential and commercial uses. The riverfront setting, close proximity to the Sacramento downtown, availability of substantial amounts of unused or underutilized land, strong interest on the part of land developers in the area, and a strong pro-growth sentiment and sense of commitment on the part of city government is beginning to radically transform this previous collection of sleepy, low income and unorganized hamlets, setting the stage for a fairly substantial increase in population and employment and overall up grading over the next several years. Major obstacles to growth, such as limited accessibility to the area south of the Barge Canal, are being rectified.

As a consequence West Sacramento is expected to account for some 12,000 of the county's net increase of 37,600 new residents by the year 2000, or 33 percent of the total increase. Woodland and Davis' total gains are expected to be roughly comparable to what they attracted in the past decade, some 9,000 persons. But their relative shares will drop to roughly 25 percent of the county's net gain in population between 1990 and the year 2000. The shares of new growth going to Winters and the unincorporated areas will not materially change. Combined population in these areas is expected to increase by about 7,000. Overall, Yolo County is expected to grow at a rate of 2.4 percent, roughly comparable to that of Sacramento County outside of the City of Sacramento city limits.



Table 1

POPULATION, YOLO COUNTY & SURROUNDING COMMUNITIES
FOR 1980, 1990 & THE YEAR 2000

	1980	1990	2000	Change 1980/90	Change 1990/00	% 1980	% 1990	% 2000	% Change 1980/90	% Change 1990/00	% of Total Change 1980/90	% of Total Change 1990/00
Yolo County:												
Davis	36450	45850	54600	9400	8750	32.3%	32.8%	30.8%	25.8%	19.1%	34.6%	23.3%
West Sacramento	25900	28650	40900	2750	12250	23.0%	20.5%	23.0%	10.6%	42.8%	10.1%	32.6%
Winters	2650	4540	7750	1890	3210	2.3%	3.2%	4.4%	71.3%	70.7%	7.0%	8.5%
Woodland	30100	39600	49000	9500	9400	26.7%	28.3%	27.6%	31.6%	23.7%	35.0%	25.0%
Unincorporated	17700	21300	25250	3600	3950	15.7%	15.2%	14.2%	20.3%	18.5%	13.3%	10.5%
Total County	112800	139940	177500	27140	37560	100.0%	100.0%	100.0%	24.1%	26.8%	100.0%	100.0%
Sacramento County:												
City of Sacramento	274100	366500	391100	92400	24600	35.2%	35.5%	32.2%	33.7%	6.7%	36.4%	13.4%
Remainder of County	503700	665000	824200	161300	159200	64.8%	64.5%	67.8%	32.0%	23.9%	63.6%	86.6%
Total County	777800	1031500	1215300	253700	183800	100.0%	100.0%	100.0%	32.6%	17.8%	100.0%	100.0%
Solano County:												
Dixon	7325	10250	14000	2925	3750				39.9%	36.6%		
Vacaville	42400	69900	91700	27500	21800				64.9%	31.2%		
Colusa County	12900	16150	19200	3250	3050				25.2%	18.9%		
Sutter County	52100	63700	77300	11600	13600				22.3%	21.4%		
TOTAL REGION												
	1005325	1331440	1595000	326115	263560				32.4%	19.8%		

Sources: California Department of Finance; Sacramento Council of Governments;
Association of Bay Area Governments; Lord & Associates, Inc.



These are projections made by the Sacramento Council of Governments. They are policy-driven forecasts, using past trends as a guide but modifying these to take into consideration opportunities and constraints at work in specific communities and sub-regions. They take into consideration the General Plans in the various jurisdictions, and the expectations of city officials regarding the timing of key events, such as infrastructure improvements and public policy modifications. There is a relatively high degree of subjectivity in all such forecasts but, with the exception of some problems in specific areas, they appear for the most part to be both reasonable and realistic.

One potential problem is in the City of Woodland. Woodland is rapidly running out of developable land. The City has given approvals for another 450 dwelling units and 20 acres of subdivision land, which are zoned to accommodate another 225 housing units, are available for development. At that point the city will cease to grow except for infill projects, unless the City gives the green light to future annexations. At this point that is uncertain but the SCOG's population forecasts for the community assume a policy of annexation.

On the other hand, the SCOG's population projections may well turn out to be low for much of the rest of Yolo County. Forecasts tend to be "outside in"; policy projections are typically made first for the large areas (the region, the county); population is then distributed within these parameters to the smaller jurisdictions. At present the most rapid population increases in the region are in Sacramento County, outside of the City of Sacramento. Sacramento County is expected to grow by 184,000 in the decade of the 1990's and 87 percent of that growth is expected to occur outside of the Sacramento city limits. The County's General Plan is under review and the area to the south of Laguna is expected to be given the green light for more rapid growth in the future. The North Natomas area has essentially been on hold for three years pending resolution of the Stadium construction effort. Completion of that project will open that area for further development. Growth to the east in Placer County continues unabated.

But the changes occurring in West Sacramento are a departure from past trends, and they can, and may very well, focus more population pressure to the west of Sacramento, so that all Yolo County jurisdictions will end up growing more rapidly in the next ten years. The potential for elevated growth pressures to the west of Sacramento appears very strong. The rapidly emerging employment base in West Sacramento is only one index of this potential. Woodland and Davis are becoming important employment bases as well, and continue development of the I-80 corridor up from the San Francisco Bay Area makes Yolo County even more attractive as a area that can effectively serve both regions. As will be seen, Yolo county has been attracting substantial amounts of warehousing and distribution firms in the last several years for that very reason. The main delimiter to more rapid growth in the county has been a set of public policy constraints on the part of the various jurisdictions. Those appear to be softening in some communities.

Whether or not Yolo County's growth begins to accelerate, it is obvious from Table 1 that Woodland is very accessible to a fairly substantial population base. As will be seen in Section II, where the city's commercial sector is examined, Woodland serves a much wider area than just its own resident population. Woodland is a service center for a fairly wide geographic area. Its retailers almost certainly attract residents from as far away as Dixon and Colusa and Sutter counties. Indeed, many of the new residents in these counties actually commute to the Sacramento Metropolitan Area (a recent study in Yuba City found that two of every three houses bought in that community in recent months had a breadwinner who did just that). Woodland's warehousing companies and distributors presently service Sacramento county as well as many other counties in the Sacramento Valley. Woodland is sufficiently close to Vacaville to pull commercial demand from that area on a specialized basis. There were, within these several jurisdictions, 1.3 million people in 1990. That total is expected to increase to 1.6 million by the year 2000. That enormous base represents opportunity to City of Woodland entrepreneurs.



Table 2

EMPLOYMENT CHANGES, YOLO COUNTY & SACRAMENTO METROPOLITAN AREA, 1979 & 1989

	1974	1989	Change	% Change	% of Total, 1974	% of Total, 1989	% of Tot Change, -1974/89	Ratio To SMSA 1974	Ratio To SMSA 1989
Yolo County:									
Total Employment	46900	60500	13600	29.0%	100.0%	100.0%	100.0%	1.00	1.00
Agriculture	5600	4600	-1000	-17.9%	11.9%	7.6%	-7.4%	5.41	4.95
Mining	100	200	100	100.0%	0.2%	0.3%	0.7%	1.80	2.73
Construction	2000	2400	400	20.0%	4.3%	4.0%	2.9%	0.71	0.69
Manufacturing	5000	5100	100	2.0%	10.7%	8.4%	0.7%	1.54	1.17
Durables	1800	2200	400	22.2%	3.8%	3.6%	2.9%	1.06	0.83
Non-Durables	3200	2900	-300	-9.4%	6.8%	4.8%	-2.2%	2.08	1.71
Transp. & Pub. Util.	2700	3700	1000	37.0%	5.8%	6.1%	7.4%	1.07	1.42
Wholesale Trade	1800	3900	2100	116.7%	3.8%	6.4%	15.4%	0.94	1.36
Retail Trade	6100	9000	2900	47.5%	13.0%	14.9%	21.3%	0.69	0.78
Fin. Ins. & Real Est.	1300	2000	700	53.8%	2.8%	3.3%	5.1%	0.53	0.54
Services	4900	8100	3200	65.3%	10.4%	13.4%	23.5%	0.59	0.62
Government	17500	21100	3600	20.6%	37.3%	34.9%	26.5%	1.11	1.18
Sacramento Metropolitan Area:									
Total Employment	421700	578900	157200	37.3%	100.0%	100.0%	100.0%		
Agriculture	9300	8900	-400	-4.3%	2.2%	1.5%	-0.3%		
Mining	500	700	200	40.0%	0.1%	0.1%	0.1%		
Construction	25200	33500	8300	32.9%	6.0%	5.8%	5.3%		
Manufacturing	29100	41700	12600	43.3%	6.9%	7.2%	8.0%		
Durables	15300	25400	10100	66.0%	3.6%	4.4%	6.4%		
Non-Durables	13800	16200	2400	17.4%	3.3%	2.8%	1.5%		
Transp. & Pub. Util.	22600	25000	2400	10.6%	5.4%	4.3%	1.5%		
Wholesale Trade	17300	27400	10100	58.4%	4.1%	4.7%	6.4%		
Retail Trade	79300	110400	31100	39.2%	18.8%	19.1%	19.8%		
Fin. Ins. & Real Est.	22000	35500	13500	61.4%	5.2%	6.1%	8.6%		
Services	74300	124500	50200	67.6%	17.6%	21.5%	31.9%		
Government	142200	171300	29100	20.5%	33.7%	29.6%	18.5%		

Source: California State Employment Development Department; Lord & Associates, Inc.

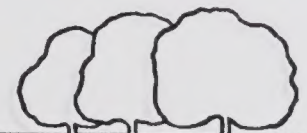
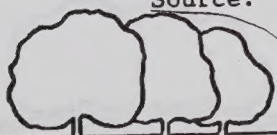


Table 3

NEW RESIDENTIAL UNITS CONSTRUCTED IN YOLO COUNTY BETWEEN 1970 & 1990

	Yolo County	Woodland	Winters	Davis	Unincorp- orated	Woodland % of County	Davis % of County
1970	1286	334	3	619	330	26.0%	48.1%
1971	1758	394	3	1171	190	22.4%	66.6%
1972	1827	478	59	921	369	26.2%	50.4%
1973	2218	718	17	1196	287	32.4%	53.9%
1974	717	305	1	307	104	42.5%	42.8%
1975	727	177	21	360	169	24.3%	49.5%
1976	1518	497	16	899	106	32.7%	59.2%
1977	1438	461	36	713	228	32.1%	49.6%
1978	906	305	9	355	237	33.7%	39.2%
1979	1096	298	12	461	325	27.2%	42.1%
1980	822	184	1	359	278	22.4%	43.7%
1981	716	97	47	446	126	13.5%	62.3%
1982	336	120	45	121	50	35.7%	36.0%
1983	900	269	26	440	165	29.9%	48.9%
1984	995	328	22	510	135	33.0%	51.3%
1985	1416	615	85	360	356	43.4%	25.4%
1986	1493	923	93	376	101	61.8%	25.2%
1987	1468	413	75	937	43	28.1%	63.8%
1988	1009	586	209	102	112	58.1%	10.1%
1989	695	291	84	182	138	41.9%	26.2%
1990	1114	283	13	747	71	25.4%	67.1%
Total	24455	8076	877	11582	3920	33.0%	47.4%
Average	1165	385	42	552	187		
1984-90	1170	491	83	459	137		
% of Total	100.0%	33.0%	3.6%	47.4%	16.0%		
% 1984-90	100.0%	42.0%	7.1%	39.2%	11.7%		

Source: Security Pacific National Bank, California Construction Trends;
Economic Sciences Corp., Calif. Building Activity; Lord & Associates, Inc.



III. POTENTIALS

This section examines retail and commercial services activity in the City of Woodland over the past decade. Both Yolo and Sacramento counties are examined concurrently, to provide a framework for understanding commercial development trends in Woodland. Commercial space requirements are projected over the next decade. This review enables us to put the redevelopment potentials facing the Woodland downtown into perspective.

RETAIL SALES IN YOLO COUNTY

Tables 4 through 10 provide a framework for understanding retailing in Yolo County and where it appears to be heading.

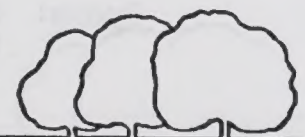
Table 4 presents a breakdown of 1989 retail sales by principal retail categories for the County as a whole and for its various cities. The general categories are restaurants, convenience foods (food, drug and liquor stores), comparison foods (such as apparel, home furnishings, and general and specialty merchandise stores), and highway-oriented stores (auto dealers, hardware and building materials, service stations). Specialty goods include such items as sporting goods, bicycle shops, book stores, florists, pet shops, sellers of stationary, cameras and photographic equipment, gift, novelty and souvenir items, luggage, optical equipment and the like.

The table shows total retail sales in each category in 1989. It shows retail sales per capita. And it provides percentage breakdowns of each city's share of total sales in the county in each category, and the importance of each retail category in each city. The principal findings from the table are outlined below:

1. Retail sales in Yolo County in 1989 were \$762 million. Thirty-seven percent of the total, or \$284 million, were made by stores located in the City of Woodland. West Sacramento and Davis each accounted for roughly 25 percent of the total.

Winters and the unincorporated areas were minor participants, with 13 percent of the total.

2. Woodland presently has only 28 percent of the County's total population, resulting in high per capita retail sales. These were \$7,100 in 1989, 30 percent higher than the \$5,700 per capita average found in the County as a whole. West Sacramento's per capita sales were slightly higher, at \$7,400.
3. Woodland's per capita convenience goods sales were high (\$1,100, 36 percent above the county's average). Its comparison goods sales were even higher, \$2,500, over double Yolo County's per capita comparison goods sales. Woodland accounted for 39 percent of all convenience foods sold in the County in 1989 and 61 percent of all comparison goods. Woodland was particularly strong in general merchandise sales, reflecting the recent development the County Fair Mall regional shopping center and its major department stores.
4. West Sacramento, as would be expected with its location straddling Interstate 80, accounted for by far the largest share of the county's highway-oriented retail sales, \$134 million or nearly \$5,000 per capita, 71 percent above the county average. Sales of automobiles, farm implements, building materials, gasoline and other such items represented 66 percent of West Sacramento's total sales.
5. Retail sales in the City of Davis were \$177 million. While this is a substantial number, its per capita sales were low, \$3,900, only 72 percent of the county average. These low per capita sales are in spite of the large (20,000) University of California student population which spends money in the community but are not included in its population totals. The City's comparatively low retail per capital sales reflect a reluctance on the part of city government to encourage certain types of commercial development.



6. Per capita retail sales in the City of Sacramento were \$6,300 in 1989 and exceeded Yolo County's comparable numbers by 15 percent, just one other index of that community's dominant position in commercial and industrial activity in the Sacramento metropolitan area as a whole. The majority of the region's employment is concentrated in the City of Sacramento. It attracts a significant number of business travelers and other visitors each year because of its position as the State Capital. Its periphery, or suburban areas, are rapidly expanding. Its central location in the region permits a high percentage of the region's restaurants and specialty foods stores to be concentrated in Sacramento. Per capita restaurant sales in Sacramento are 36 percent higher than Yolo's; its per capita specialty goods store sales are 250 percent higher. Its comparison goods sales in general are over double the per capita levels found in Yolo County.



Table 4

RETAIL SALES, WOODLAND & OTHER SACRAMENTO REGION COMMUNITIES, 1989

TOTAL SALES (000 Omitted)	Yolo County	Woodland	Davis	West Sacramento	Remainder of County	City of Sacramento	Sacramento County	Vacaville
Convenience Goods:								
Food	86098	32071	21528	25033	7466	183629	551340	40005
Drugs	25081	11417	11150	2000	514	49034	166287	13134
Liquor	5412	1676	1554	1504	678	18369	54765	1988
Total	116591	45164	34232	28537	8658	251032	772392	55127
Restaurants	86263	25779	30402	20721	9361	292853	737884	52314
Comparison Goods:								
Apparel	17943	12362	3642	1700	239	74261	269855	26249
General Merchandise	59778	52494	1907	4420	957	307397	1100371	13174
Home Furnishings	16784	10012	2053	1876	2843	98592	429048	15965
Specialty Stores	67263	23222	20923	11136	11982	424629	858873	33005
Total	161768	98090	28525	19132	16021	904879	2658147	88393
Highway Oriented:								
Auto Dealers	179675	56215	57060	54400	12000	331113	1290039	34755
Bldg. Mat. & Farm Imp.	128873	34368	9905	55493	29107	239956	683363	26060
Service Stations	88602	24523	17166	23755	23158	165205	449825	32433
Total	397150	115106	84131	133648	64265	736274	2423227	93248
Total Retail	761772	284139	177290	202038	98305	2185038	6591650	289082
SALES PER CAPITA								
Convenience Goods:								
Food	619	806	475	915	279	530	537	567
Drugs	180	287	246	73	19	141	162	186
Liquor	39	42	34	55	25	53	53	28
Total	838	1135	756	1043	324	724	752	781
Restaurants	620	648	671	758	350	845	719	741
Comparison Goods:								
Apparel	129	311	80	62	9	214	263	372
General Merchandise	429	1319	42	162	36	887	1072	187
Home Furnishings	121	252	45	69	106	284	418	226
Specialty Stores	483	583	462	407	448	1225	836	467
Total	1162	2465	630	700	599	2611	2589	1252
Highway Oriented:								
Auto Dealers	1291	1412	1260	1989	449	955	1256	492
Building Materials	926	864	219	2029	1088	692	666	369
Service Stations	637	616	379	869	866	477	438	459
Total	2853	2892	1857	4887	2402	2124	2360	1321
Total Retail	5473	7139	3914	7387	3675	6304	6420	4095

Note: West Sacramento City apparel, drug and specialty sales estimated.

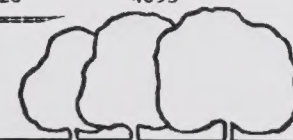


Table 4, continued

RETAIL SALES, WOODLAND & OTHER SACRAMENTO REGION COMMUNITIES, 1989

PERCENT OF COUNTY'S TOTAL	Yolo County	Woodland	Davis	West Sacramento	Remainder of County	City of Sacramento	Sacramento County	Vacaville
Convenience Goods:								
Food	100.0%	37.2%	25.0%	29.1%	8.7%	33.3%	100.0%	
Drugs	100.0%	45.5%	44.5%	8.0%	2.0%	29.5%	100.0%	
Liquor	100.0%	31.0%	28.7%	27.8%	12.5%	33.5%	100.0%	
Total	100.0%	38.7%	29.4%	24.5%	7.4%	32.5%	100.0%	
Restaurants	100.0%	29.9%	35.2%	24.0%	10.9%	39.7%	100.0%	
Comparison Goods:								
Apparel	100.0%	68.9%	20.3%	9.5%	1.3%	27.5%	100.0%	
General Merchandise	100.0%	87.8%	3.2%	7.4%	1.6%	27.9%	100.0%	
Home Furnishings	100.0%	59.7%	12.2%	11.2%	16.9%	23.0%	100.0%	
Specialty Stores	100.0%	34.5%	31.1%	16.6%	17.8%	49.4%	100.0%	
Total	100.0%	60.6%	17.6%	11.8%	9.9%	34.0%	100.0%	
Highway Oriented:								
Auto Dealers	100.0%	31.3%	31.8%	30.3%	6.7%	25.7%	100.0%	
Building Materials	100.0%	26.7%	7.7%	43.1%	22.6%	35.1%	100.0%	
Service Stations	100.0%	27.7%	19.4%	26.8%	26.1%	36.7%	100.0%	
Total	100.0%	29.0%	21.2%	33.7%	16.2%	30.4%	100.0%	
Total Retail	100.0%	37.3%	23.3%	26.5%	12.9%	33.1%	100.0%	
PERCENT OF CITY'S TOTAL SALES:								
Convenience Goods:								
Food	11.3%	11.3%	12.1%	12.4%	7.6%	8.4%	8.4%	13.8%
Drugs	3.3%	4.0%	6.3%	1.0%	0.5%	2.2%	2.5%	4.5%
Liquor	0.7%	0.6%	0.9%	0.7%	0.7%	0.8%		0.7%
Total	15.3%	15.9%	19.3%	14.1%	8.8%	11.5%	11.7%	19.1%
Restaurants	11.3%	9.1%	17.1%	10.3%	9.5%	13.4%	11.2%	18.1%
Comparison Goods:								
Apparel	2.4%	4.4%	2.1%	0.8%	0.2%	3.4%	4.1%	9.1%
General Merchandise	7.8%	18.5%	1.1%	2.2%	1.0%	14.1%	16.7%	4.6%
Home Furnishings	2.2%	3.5%	1.2%	0.9%	2.9%	4.5%	6.5%	5.5%
Specialty Stores	8.8%	8.2%	11.8%	5.5%	12.2%	19.4%	13.0%	11.4%
Total	21.2%	34.5%	16.1%	9.5%	16.3%	41.4%	40.3%	30.6%
Highway Oriented:								
Auto Dealers	23.6%	19.8%	32.2%	26.9%	12.2%	15.2%	19.6%	12.0%
Building Materials	16.9%	12.1%	5.6%	27.5%	29.6%	11.0%	10.4%	9.0%
Service Stations	11.6%	8.6%	9.7%	11.8%	23.6%	7.6%	6.8%	11.2%
Total	52.1%	40.5%	47.5%	66.1%	65.4%	33.7%	36.8%	32.3%
Total Retail	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: California State Board of Equalization; Lord & Associates, Inc.



CHANGING RETAIL PATTERNS IN THE REGION

Table 5 shows the growth rates over the past decade for retail sales within Yolo and Sacramento Counties, the principal or relevant cities within these two counties, and the relevant communities of Dixon and Vacaville in eastern Solano County.

The greatest growth within Yolo County was in Woodland. Total retail sales in this community increased by 135 percent between 1980 and 1990, an 8.1 percent growth rate, well above the 5.9 percent growth rate for Yolo County as a whole, its other communities and the unincorporated areas. Retail sales appear to have grown rapidly in West Sacramento but no data are available before its incorporation in 1988. Significantly, Woodland's retail sales growth rate paralleled that of Sacramento County, suggesting it was holding its own in the race for market share in the region. It also suggests it was becoming an increasingly more important retail center within Yolo County.

Retail sales grew at respectable rates in Dixon and Winters but both are presently minor factors in the region. Vacaville's retail sales had grown at a reasonably modest rate until introduction of the new Wiley Creek Factory Outlet Center there in 1989. Since that time total sales in the community increased by roughly 50 percent.

Table 6 examines changes in retail sales in Woodland since 1977, and provides an indication of its retail sector has changed over the past roughly 14 years and what those changes imply for the future. Several things stand out:

1. Total retail sales increased from \$94 million in 1977 to \$284 million by 1989, a 200 percent increase. In real terms, where the effect of inflation has been subtracted, retail sales increased in Woodland by slightly under 70 percent.
2. Both the population of Woodland and the number of its retail establishments grew by 46 percent during these years, or a 3.2 percent compound growth rate. Retail sales per capita and per establishment increased by 36 percent during these years.
3. By far the greatest increases were in general merchandise sales. As can be seen in Table 6, these increased by over double the rate of total retail sales. Most of this growth followed the 1986 opening of the 180,000 square foot County Fair Mall and the introduction of its three anchor department stores, Pennies, Mervyn's and Gottschalks. Between 1986 and 1989, general merchandise sales doubled in Woodland, a 26 percent compound growth rate. General merchandise accounted for 8.5 percent of total retail sales in Woodland in 1977. By 1989 this group's share was 18.5 percent.
4. Sales for the other comparison goods groups—apparel, home furnishings and specialty stores—while strong, lagged significantly behind the department stores. Totals for these groups increased by 92 percent in real terms over this 14-year interval, also well above the growth in total sales. Judging from the number of defections of downtown businesses to the County Fair Mall, growing vacancies and general grumbling, strong sales by the new mall tenants no doubt came at the expense of businesses in the downtown during the past five years.
5. Food and drug store sales lagged behind the growth in the other categories. These increased more on the order of 39 percent in real terms during these years. Food store sales increased in line with population growth in the area. The drug stores appear to have been impacted by the introduction of the Mall. Drug store sales in the community have been essentially flat since 1986. Many of the products that modern drug stores sell are actually items traditionally found in general merchandise stores, and the introduction of the department stores was obviously felt by the Woodland drug store operators as well.
6. Restaurant sales increased at the same rate total sales increased in the community during these years. However, since

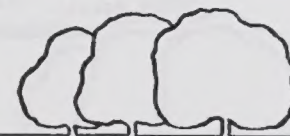


Table 5

RETAIL SALES, WOODLAND AREA CITIES, 1980 TO 1990

	Yolo County	Woodland	Davis	West Sacramento	Winters	Dixon	Vacaville	City of Sacramento	Sacramento County
Total Sales, In Millions of Dollars:									
1980	434.7	128.3	109.3		5.9	27.9	120.2	1121.8	3159.4
1981	472.8	143.6	120.0		6.6	30.1	121.5	1203.4	3400.5
1982	448.0	137.8	117.3		5.8	29.6	132.3	1250.4	3595.1
1983	475.8	141.7	134.6		5.9	32.2	143.6	1385.4	4057.8
1984	533.5	161.5	147.3		6.3	30.6	160.1	1588.0	4571.8
1985	570.8	188.0	155.7		6.5	33.0	179.4	1693.1	5048.8
1986	593.6	201.2	167.0		6.6	34.4	188.8	1762.7	5348.8
1987	650.2	227.1	167.2		7.6	35.4	203.6	1878.2	5665.0
1988	686.5	246.0	173.4	213.6	8.6	42.3	227.2	1982.1	5995.0
1989	761.8	284.1	177.3	202.0	10.0	49.7	289.1	2185.0	6592.7
1990	818.4	302.0	200.4	247.0	11.0	59.6	320.1	2328.8	7099.0
Index (1980 = 100)									
1980	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%
1981	108.8%	111.9%	109.8%		111.9%	107.9%	101.1%	107.3%	107.6%
1982	103.1%	107.4%	107.3%		98.3%	106.1%	110.1%	111.5%	113.8%
1983	109.5%	110.4%	123.1%		100.0%	115.4%	119.5%	123.5%	128.4%
1984	122.7%	125.9%	134.8%		106.8%	109.7%	133.2%	141.6%	144.7%
1985	131.3%	146.5%	142.5%		110.2%	118.3%	149.3%	150.9%	159.8%
1986	136.6%	156.8%	152.8%		111.9%	123.3%	157.1%	157.1%	169.3%
1987	149.6%	177.0%	153.0%		128.8%	126.9%	169.4%	167.4%	179.3%
1988	157.9%	191.7%	158.6%		145.8%	151.6%	189.0%	176.7%	189.8%
1989	175.2%	221.4%	162.2%		169.5%	178.1%	240.5%	194.8%	208.7%
1990	188.3%	235.4%	183.3%		186.4%	213.6%	266.3%	207.6%	224.7%
Percent of Yolo County Total:									
1980	100.0%	29.5%	25.1%		1.4%				
1990	100.0%	36.9%	24.5%	30.2%	1.3%				

Sources: California State Board of Equalization; Lord & Associates, Inc.

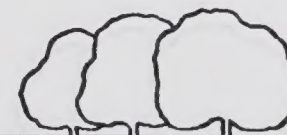


Table 6

RETAIL SALES IN WOODLAND, 1977 TO 1990, SELECTED CATEGORIES

Year	Total Retail Sales (000)	General Merchandise Stores (000)	Other Comparison Goods (000)	Food & Liquor (000)	Eating & Drinking (000)	Drug Stores (000)	No. of Establish- ments	Woodland Population	Woodland Sales Per Capita	Woodland Sales Per Estab'ment (000)	Total Ret. Sales Index (1977=100)	General Mdse. Index (1977=100)
1977	94471	8056	12448	12085	8554	5613	274	26300	3592	345	100.0%	100.0%
1978	106718	9274	15532	13758	10055	5931	284	26850	3975	376	113.0%	115.1%
1979	121204	10360	16832	10665	10665	6226	295	28050	4321	411	128.3%	128.6%
1980	128303	11001	15817	11276	11276	6616	293	30100	4263	438	135.8%	136.6%
1981	143572	11780	17047	12772	12772	8286	290	30950	4639	495	152.0%	146.2%
1982	137841	12999	17944	13357	13357	10163	304	31300	4404	453	145.9%	161.4%
1983	141701	11676	22168	14286	14286	10903	311	31750	4463	456	150.0%	144.9%
1984	161508	14405	24269	16158	16158	11388	314	32650	4947	514	171.0%	178.8%
1985	188014	20405	26200	17501	17501	10976	312	33050	5689	603	199.0%	253.3%
1986	201210	25809	30838	19850	19850	11409	315	33950	5927	639	213.0%	320.4%
1987	227138	37392	37782	21218	21218	13927	365	34850	6518	622	240.4%	464.2%
1988	245987	45744	41149	23603	23603	10790	377	36700	6703	652	260.4%	567.8%
1989	284139	52494	45596	25779	25779	11417	398	38450	7390	714	300.8%	651.6%
1990								39600	0	ERR	0.0%	0.0%
% Change Deflated	200.8%	551.6%	266.3%	113.3%	201.4%	103.4%	45.3%	46.2%	105.7%	107.1%		
	69.2%	190.2%	91.8%	39.1%	69.4%	35.6%			36.4%	36.9%		
% of Total:												
1977	100.0%	8.5%	13.2%	12.8%	9.1%	5.9%						
1989	100.0%	18.5%	16.0%	9.1%	9.1%	4.0%						

Source: California State Department of Finance; Lord & Associates, Inc.



PROJECTED RETAIL SPACE REQUIREMENTS IN WOODLAND AND YOLO COUNTY

Table 7 provides a comparison between probable retail expenditures on the part of Woodland residents and actual retail sales in the community. This table enables us to determine (1) how large Woodland's actual commercial orbit is, and (2) the extent to which there may be opportunities for additional retail expansion in the community. Column 1 shows per capita expenditures in the State of California as a whole in 1989. (Per capita retail sales were \$7,187 in California, slightly above those found in Yolo County. The statewide numbers were used because they appear to be more representative of the population emerging in Woodland, and because lower living costs of persons in the largely rural portions of Yolo County would compensate for the lower incomes of those residents.) These per capita numbers are multiplied by the persons presently living in Woodland to determine what the total expenditures in the area would be (column 2) without net leakage (e.g., expenditures of local residents outside Woodland) or its reverse, the extent to which the community's retailers are supported by non-residents. These expenditures are then contrasted with actual retail sales in the area (column 3). The resulting ratios (column 4) provide an index of self-sufficiency for the area.

As can be seen in column 4, total retail sales are 26 percent above probable local expenditures. Food (165 percent), drugs (182 percent), general merchandise (155 percent) and building materials and farm implements (140 percent), have very high ratios of actual sales to probable expenditures by local residents, suggesting that Woodland sells to a much larger population base than just persons living within its own boundaries. Non-residents account for between 40 and 80 percent of the expenditures on these items in any given year. The ratio of expenditures to sales for restaurants and most comparison goods sold outside of department stores, on the other hand, are substantially lower, well below one-to-one. Residents appear to make only about 85 percent of their restaurant expenditures locally and 80 percent of their non-department store comparison goods expenditures locally.

Table 8 combines spending patterns with anticipated growth in

population and personal incomes in Woodland and its service area to arrive at the amount of additional retail space that can and most likely will be supported there in the future. Columns 2 and 3 in Table 8 show how real (non-inflated) expenditures are likely to increase between 1990 and the year 2000 if population grows in line with regional forecasts reviewed in Section I and per capita real incomes in the U.S. continue to grow at a rate of 1.8 percent compounded as they have in the past 20 years. Under these assumptions, total retail sales in Woodland will increase from approximately \$359 million in 1989 to \$547 million by the year 2000. The amount of retail space supportable in Woodland will increase from a 1989 total of approximately 1.5 million square feet to 2.3 million by the year 2000, a gain of some 800,000 square feet, or 73,000 square feet per year.

These estimates assume no marked shifts in consumer spending patterns or preferences in the populations that Woodland serves. It assumes, in other words, that Woodland is unable to capture a larger share of the markets it now underserves, such as restaurants and specialty goods, but also does not lose portions of the markets it is presently particularly strong in. The outlook for continued rapid commercial investment in the community appears very promising. Tables 9 and 10 provide the results of the same exercise conducted for the County as a whole. As may be seen:

1. Total retail sales in the county were roughly equal to the expenditures of local residents. However, there were some significant variations within the various categories. Comparison goods sales accounted for only 64 percent of total expenditures at the present time. Despite the rapid inroads made by the department stores in Woodland, the county still accounts for only about one-half of the expenditures its residents make at general merchandise stores. Sales of convenience foods, autos, building materials, farm implements and other highway-oriented retail products substantially exceed apparent expenditures by Yolo County residents, suggesting the county as a whole attracts shoppers from areas besides Yolo county for certain types of products.



2. Given anticipated population growth in the county and the other assumptions employed, there will be a requirement for an additional 2.2 million square feet of retail space by the year 2000. Roughly one-half that total will be in highway-oriented retail categories.
3. Woodland would account, given these assumptions, for 35 percent of the total retail space developed in the county over the next decade. It would attract approximately 60 percent of the county's net increased requirement of comparison goods space. Its share of restaurant sales and highway-oriented product sales would be 28 percent and it would attract 37 percent of future convenience goods space developed in the county.



Table 9

COMPARISON OF YOLO COUNTY RESIDENTS' EXPENDITURES WITH ACTUAL SALES IN THE COUNTY, 1990

	Per Capita Estimated Expenditures 1989	Total Expenditures 1989 (000)	Total Sales 1989 (000)	Sales % of Expenditures 1989
Convenience Goods:				
Food	1630	221843	286993	129.4%
Drugs	158	21504	25081	116.6%
Liquor	70	9527	5412	56.8%
Total	1858	252874	317486	125.6%
Restaurants	764	103980	86263	83.0%
Comparison Goods:				
Apparel	335	45594	17943	39.4%
General Merchandise	852	115957	59778	51.6%
Home Furnishings	323	43960	16784	38.2%
Specialty Mdse	767	104389	67263	64.4%
Total	2277	309900	161768	52.2%
Highway Oriented:				
Car Dealers	1179	160462	179675	112.0%
Building Materials	616	83838	128873	153.7%
Service Stations	493	67097	88602	132.1%
Total	2288	311397	397150	127.5%
Total Retail	7187	978151	962667	98.4%

Note: Per capita (and total) Yolo County resident expenditures (column 2) based on California state per capita retail sales experience in 1989 (see text for explanation). Actual areawide retail sales derived from column 1, Table 1. Food sales divided by .30 to included non-taxable items.

Sources: California State Board of Equalization, Taxable Sales in California 1989; Lord & Associates, Inc.



Table 10

PROJECTED RETAIL SALES IN YOLO COUNTY, AND ADDITIONAL RETAIL SPACE SUPPORTABLE, 1989 TO THE YEAR 2000

Sales in Thousands of 1990 Dollars

	Retail Sales 1989	Projected Sales 2000	Space Supportable In Square Feet 1989 2000		Increase (Sq. Ft.) 1989-2000
=====					
Convenience Goods:					
Food	286993	441826	780934	1202248	421314
Drugs	25081	38612	127964	197001	69037
Liquor	5412				
Total	317486	488770	908899	1399249	490351
Restaurants	86263	132802	469459	722731	253273
Comparison Goods:					
Apparel	17943	27623	83699	128855	45156
General Merchandise	59778	92028	278848	429286	150438
Home Furnishings	16784	25839	101491	156245	54754
Specialty	67263	103551	313763	483039	169275
Total	161768	249042	777801	1197424	419624
Highway Oriented:					
Car Dealers	179675	276610	1047668	1612884	565217
Building Materials	128873	198400	876687	1349660	472973
Service Stations	88602	136403			
Total	397150	611412	1924355	2962544	1038189
Total Retail	962667	1482026	4080512	6281949	2201436

Notes: Sales and space projections based on Sacramento Council of Governments' baseline population projections (March, 1991), and assume annual growth in real incomes of 1.8 percent. Space requirements based on dollars per square foot retail space coefficients ranging from \$165 to \$368, depending on retail category.

Source: Table 6; Lord & Associates, Inc.



SPACE FOR FINANCIAL, PROFESSIONAL AND OTHER SERVICES

Considerable commercial space is required in all communities to accommodate a wide variety of services—financial, professional, business and personal. Most of this space is for office functions, for banks, insurance and real estate agents, accountants, attorneys, physicians and other professionals, and for business and professional associations. Some is leased by government agencies. An additional, substantial amount of space is for activities such as data processing and copying, miscellaneous repair services (shoes, jewelry, small electrical appliances), barbers and beauty parlors, laundries and cleaning establishments.

How much of this type of space has been built in Yolo County over the years is not known. Woodland has attracted much of it, particularly to house the legal and health care professionals because of the location of the County Court House and major hospitals in the area. Woodland accounts for over 55 percent of the total receipts generated by these two service categories in Yolo County. Whether it will lose some of the health care practitioners as a result of the closure of Yolo General Hospital is not clear but preliminary indications are it will not. Woodland is also well represented in personal services (laundries, photographers, funeral houses, miscellaneous repair services). Davis has a comparatively large share of the other professions (architects, engineers, accountants) and business services (presumably because of the University and closer proximity to Sacramento. Most of the professionals in Woodland work in comparatively small, free standing buildings throughout the community, in the Ventura industrial park, and in and around the central area. Additional office space has been supplied through conversions of residential and other structures. A potentially significant amount of office space exists in the second stories of downtown Main Street buildings.

Table 11 shows how office-oriented employment has grown in Yolo County whole since 1979, and the total amount of space that would have been required to accommodate that increased employment. Estimated total employment increased from just under 4,000 in 1979

to 7,280 in 1989, a seven percent growth rate. A net requirement of 896,000 additional square feet of office space would have been required to house this increased employment, using the space standard of 250 square feet per employee prevailing today. This total represents nearly 90,000 square feet per year. Additional commercial space was required in the county for growth in other types of services (personal, repair, etc.), and the sales and administrative functions of industries such as manufacturing, construction, transportation, distribution and public utilities, as well as some government functions. Table 11 does not reflect the space requirements associated with these industries.

Assuming office-oriented employment continues to expand as it has over the past two decades, some 11,500 persons will be so employed in Yolo County as a whole by the year 2000, a gain of over 4,200, or 57 percent. Another 1,055,000 square feet of office space will be supportable, or an average of 96,000 square feet per year.

Table 11 also shows how office employment grew in Sacramento County over the past decade, to provide some perspective on Yolo County's experience. Total employment there increased from just under 49,000 in 1979 to 102,000 in 1989, an average increase of 5,300 per year. Total office space demand was growing in Sacramento County by roughly 1.3 million square feet per year during these years. Yolo County accounted for just under seven percent of the combined counties' total office space additions. Shown below are Woodland's shares of the total receipts of selected service industries (those where geographic breakdowns were available) in Yolo County as of the 1987 federal business census:

Business services	23.8%
Legal Services	56.5
Health Services	55.9
Other Professional Services	13.3
Total Receipts of Service Firms	28.0%

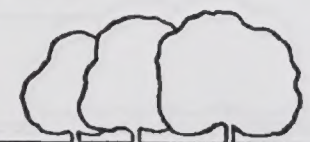


Table 11

OFFICE EMPLOYMENT & OFFICE SPACE GENERATED, YOLO & SACRAMENTO COUNTIES BETWEEN 1979 & 1989, & PROJECTED TO THE YEAR 2000

	Finance Ins. & R.E.	Office & Misc. Services	Self- Employed	Total Office Employment	Net Change	Addit'nal Space Required (Sq.Ft.)	Sacramento County Off. Empl.	Addit'nal Space Required (Sq.Ft.)
1979	1300	2000	396	3696			48875	
1980	1400	1900	396	3696	0	0	52095	805000
1981	1600	2000	432	4032	336	84000	55315	805000
1982	1400	2000	408	3808	-224	-56000	55315	0
1983	1400	2300	444	4144	336	84000	57960	661250
1984	1500	2500	480	4480	336	84000	63825	1466250
1985	1500	2900	528	4928	448	112000	71415	1897500
1986	1900	3300	624	5824	896	224000	77050	1408750
1987	1900	3600	660	6160	336	84000	84640	1897500
1988	2000	4000	720	6720	560	140000	90965	1581250
1989	2200	4300	780	7280	560	140000	102120	2788750
Totals					3584	896000		13311250
Average					358	89600		1331125
Projections:								
2000				11500	4220	1055000		
Annual Average					384	95909		
Woodland Potential (30%)						316500		

Source: California State Employment Development Department; Lord & Associates, Inc.



COMMERCIAL INVESTMENT IN YOLO COUNTY, 1970 TO 1989

Table 12 shows commercial investment within Yolo County, broken down by principal city, between 1970 and 1989. A total of some \$185 million was invested in the county during these two decades, an average of \$8.8 million per year. (The actual total was about twice as high; these data reflect only construction costs and not land, soft costs and developer's profits.) The city of Woodland attracted the largest share of this total, \$80 million, \$3.8 million per year, or 43 percent of the county's total. Woodland's share of the total, moreover, increased to 51 percent in the years 1984 to 1989.

The County Fair Mall accounted for a substantial share of this six-year total, at least 30 percent, and an important share of the total was for new warehouses and distribution facilities. But the area has attracted growing shares of new investment in other retail space and in office buildings. Davis, during these same years, attracted 32 percent of the county's total commercial investment and the unincorporated areas, which includes West Sacramento, accounted for 23 percent. New investment in both Yolo County and Woodland peaked in the years 1986 through 1988, when some \$66 million was invested in new commercial ventures in Yolo County. Since that time it has tended downward, to only \$7 million in 1990, a national trend as the nation slid into its first economic recession in eight years.

Hence the above projections of 36 percent of the county's total additional retail space ending up in Woodland, and 30 percent of its office development, may well be conservative. The attraction of 40 percent Yolo County's total retail and commercial office space absorption in next decade would appear to be an attainable target for the City of Woodland.



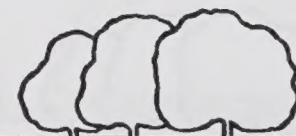
Table 12

COMMERCIAL INVESTMENT IN YOLO COUNTY BETWEEN 1970 & 1990

\$000 Omitted

	Yolo County	Woodland	Winters	Davis	Unincorp- orated	Woodland % of County	Davis % of County
1970	2686	397	75	484	1730	14.8%	18.0%
1971	4073	1273	34	1157	1610	31.3%	28.4%
1972	2308	478	0	704	1127	20.7%	30.5%
1973	4298	1626	0	777	1895	37.8%	18.1%
1974	3733	951	0	1732	1046	25.5%	46.4%
1975	3005	1935	41	353	676	64.4%	11.7%
1976	5355	2351	179	283	2003	43.9%	5.3%
1977	4560	1709	26	948	1877	37.5%	20.8%
1978	10062	2132	77	5000	2853	21.2%	49.7%
1979	9797	3002	657	2035	4103	30.6%	20.8%
1980	6995	1697	30	4373	865	24.3%	62.5%
1981	7552	3930	0	1832	1790	52.0%	24.3%
1982	5153	2122	0	1602	1429	41.2%	31.1%
1983	5559	450	0	2148	2962	8.1%	38.6%
1984	15998	3180	53	5398	7367	19.9%	33.7%
1985	7196	2290	40	1991	2875	31.8%	27.7%
1986	22565	17013	0	3025	2524	75.4%	13.4%
1987	26794	18910	145	5211	2529	70.6%	19.4%
1988	16550	9140	0	6046	1364	55.2%	36.5%
1989	14040	2334	0	11104	603	16.6%	79.1%
1990	7160	2802	0	3974	384	39.1%	55.5%
Total	185439	79722	1357	60177	43612	43.0%	32.5%
% of Total	100.0%	43.0%	0.7%	32.5%	23.5%		
% 1984-90	100.0%	50.5%	0.2%	33.3%	16.0%		

Source: Security Pacific National Bank, California Construction Trends;
Economic Sciences Corp., Calif. Building Activity; Lord & Associates, Inc.



OUTLOOK FOR ACCELERATED OFFICE SPACE DEMAND IN WOODLAND

There is another dimension to the office space demand potential facing Woodland. The projections cited above use past trends in relevant employment categories as a basis. Using this basis, office space demand in Woodland would grow by some 290,000 square feet over the next decade.

But there is another variable at work, and that is the potential for Yolo County and Woodland to attract growing shares of the region's total commercial space demand. This potential would appear to be relatively strong. The county presently accounts for 5.6 percent of the four county metropolitan area's total employment in finance, insurance and real estate, 6.5 percent of its total services employment, and 8.2 percent of the region's total retail employment, despite accounting for nine percent of the region's total population. These relative shares have remained fairly constant over the past decade.

But there is considerable variation within the broad categories. Yolo had, at the time of the 1987 Federal Census of Services, 7.4 percent of the region's personal services establishments but only 4.7 percent of its receipts and 5.3 percent of its employees. It had an even lower percentage of the region's business and legal services. But it was strong in selected repair services and in engineering and accounting (the county accounted for 9.5 percent of the region's total employment in the latter group). In most large urban areas, office using industries choose central locations to take advantage of the lower aggregated costs connected with such locations (to be nearer the largest number of potential clients or customers or to accommodate the commuting needs of employees who are frequently dispersed widely throughout the region), or to more effectively service accounts. The much smaller, peripheral sub-divisions account for a comparatively small percentage of such employment for the same reasons (comparative locational disadvantages).

But as time goes on, the advantages of centrality begin to wane for many companies. Banks, real estate and insurance agents, and many professionals move out to the suburban areas to be nearer customers. Many businesses move to take advantage of lower space costs. Bank and insurance processing services use large numbers of comparatively inexpensive employees and it makes little sense to be paying \$7,000 per year for space designed for an employee making \$16,000 per year. As a result more companies have switched to less costly suburban space.

Finally, personal preference plays a role. Architectural and engineering offices, for example, can frequently operate effectively in either central or suburban areas. Many of these firms prefer lower cost space because their work loads vary, which forces them to frequently carry relatively large amounts of underutilized space. Many of the decisions to select suburban locations are driven by the desire on the part of small company owners to locate close to their residences, to thereby reduce their commuting requirements. The larger number of small new start-up industries that have emerged in the U.S. over the past decade are one of the reasons for the strength of this trend. Heavier use of the telephone for direct selling has strengthened the tendency towards decentralization.

Availability of a specialized labor resource is another determinate of where companies locate. Yolo County accounts for a comparatively high percentage of the region's total engineering, architectural, accounting and research and development employment. Many of these firms are located in or near the City of Davis to be able to employ large numbers of University of California students on a part time basis. Many of these firms are located in smaller buildings within Davis itself, within easy bicycling distance of the student's residences.

As a result, suburban areas have been attracting increasing shares of office employment in recent years, and the propensity grows disproportionately the larger the urban area is and the faster it grows. While San Francisco, for example, accounted for 20 percent of the nine-county San Francisco Bay Area's total employment in 1988, it had 38



percent of the region's financial and related employment (the city had 13 percent of the region's total population). But in 1972, San Francisco accounted for 52 percent of the region's financial employment. Hence it garnered a significantly smaller share of the net increase in such employment over the 16-year interval (an impressive 20 percent nonetheless). We expect the Sacramento region to perform in largely the same fashion over time, with Yolo and the other peripheral counties attracting growing shares of the region's total employment even though the Sacramento central area will continue to grow strongly in the future. Hence the potential of the Woodland downtown for attracting commercial office space, over and above the potentials implicit in past trends, is very strong, providing it takes the necessary steps to make itself competitive.

Much will depend upon actions taken in the other communities. Davis officially has a lukewarm attitude towards commercial development, limiting the size of convenience shopping centers and insisting most new development featuring comparison goods be concentrated in the downtown. But it is beginning to soften those positions, allowing larger centers and giving serious consideration to breaching its own restrictions. A new center is in serious consideration near the University of California, for example, one that would have met considerable resistance just a few years ago. Davis has a growth measure limiting new housing construction but it too is subject to frequent exceptions. Changing conditions in West Sacramento were reviewed above. The implications for commercial development are very evident. It will have to be reckoned with.

CONCLUSIONS

Continued growth in population and income in Yolo County will generate a requirement for some 2.2 million square feet of retail space, and 1.05 million square feet of commercial services space in the next decade. Woodland is projected to capture a sizeable share of this total, as was seen, some 796,000 square feet of additional retail space and 290,000 square feet of additional office space. These estimates may turn out to be conservative. How much of this space potential will end up downtown in the form of new and renovated buildings will depend

to an important degree on the strength and character of programs and policies followed by the City of Woodland. A discussion on the City's options downtown and their implications is presented in Section III. But some general observations and conclusions are possible at this point:

1. The County Fair Mall did not cause the downtown to deteriorate. Its problems were evident well in advance of the opening of the Mall. The Mall may have accelerated the decline, but the evidence suggests that Woodland may have been able to support a much larger regional center. The downtown collapsed from the pressure of its own weight and its own inadequacies. Ample opportunities for expansion were available.
2. The downtown can come back, in fact strongly, if experience in other cities is any guide. It needs, among other things, a face lift and some new direction, but space demand projections presented above suggest ample opportunity for a revitalized downtown if appropriate measures are taken.
3. Despite high per capita retail expenditures in Woodland, suggesting it is a service center for a relatively broad geographic area, it is also apparent from comparisons with the City of Sacramento that Woodland experiences substantial leakage of its own, that its own citizens make sizeable retail expenditures outside of Woodland, in other words. Solving that dilemma will go a long way towards solving the problems of the downtown. How to keep the existing base happy, meet more of the needs of its own resident population, and possibly create an effective mousetrap to attract a reverse flow, of Sacramento residents to Woodland, are the overriding objectives of the next section.



IV. PRESCRIPTIONS

This section examines implementation of the proposed Woodland Downtown Plan. The section begins with a review of real estate development opportunities downtown. Constraints to future downtown development and their mitigation are discussed. The means and outlook for paying for proposed public improvements associated with the Plan are then reviewed.

DEVELOPMENT OPPORTUNITIES IN DOWNTOWN WOODLAND

There are three general types of investment opportunities in downtown Woodland available to developers: (1) Construction of new office buildings; (2) renovations of existing buildings, generally a combination of retail spaces on ground level and offices above, and (3) construction of new multi-family housing units.

There are several reasons why development opportunities appear to be strong in the central area: (1) As was seen in section II above, long-term trends in the region suggest a need for over one million square feet of office space in Yolo County over the next decade, and some 290,000 square feet in Woodland; (2) there is presently an adequate inventory of easily developed land available in downtown Woodland, with low prices; (3) there are several older buildings available for renovation and rehabilitation downtown, with several others that have been successfully renovated in recent years that serve as precedents; (4) the likelihood of continued growth and economic opportunity in the greater Sacramento region as a whole is very strong; (5) the City of Woodland is serious about upgrading its downtown, to attract investment and enhance the lives of its citizens; and (6) housing is in very short supply in Woodland.

Present Conditions in the Regional Office Space Market

Despite the current recession and an oversupply of commercial office space in most urban areas, Sacramento has held up comparatively well. Vacancy rates are low, ranging from a current six percent in the central area to between eight and 15 percent on the urban periphery (mainly along the I-80 corridor), depending upon the specific area and business park. Space rents for new construction range from approximately \$2.20 to \$2.50 per square foot in the Sacramento central area to \$1.65 to \$1.85 in the urban periphery, with rates varying because of qualitative differences in sites and improvements.

The office space vacancy rate in the central area will take a sizeable jump in the next few months as a result of the opening of three major new office buildings (Wells Fargo, Grosvenor and One Capital Mall), which together contain a total of 1.13 million square feet of space. How rapidly this space is absorbed will depend mainly on how rapidly the local economy improves. In 1990, some 2.8 million square feet of office space was absorbed throughout the region. In 1991, because of the recession, this total dropped to 1.6 million square feet. As the central area presently accounts for between 30 and 40 percent of the area-wide, incremental gains in office space, a return to growth and prosperity should mean the space about to be completed downtown will lease up rapidly.

The Sacramento metropolitan area is one of the fastest growing regions in the State of California today, with annual population gains of 50,000 in recent years, over double the annual increases of ten years ago. Rapid growth in Sacramento partly reflects rapid growth in California as a whole in the past decade, but it also reflects the low costs of living and doing business in the area, compared with the more crowded coastal sections. That advantage should continue to force more and more of California's future growth to Sacramento and other Central Valley communities.

There are several properties, or opportunity blocks, in downtown Woodland which would be suitable for new development. These properties range in terms of their complexities for reuse, from sites that



are presently cleared and under one ownership to those with multiple ownerships or where toxic contamination or other problems exist. These properties are listed in the following numbered list, along with their approximate sizes and other pertinent data. There are several other properties where development may be possible but have a current constraint of one form or another (presently in public use, for example).

The largest and easiest of these opportunity blocks to develop are located along Main Street, to the east and west of the six-block downtown retail core (which extends between Walnut street to the west and Fourth Street to the east). The largest of the properties are four blocks on the south boundary of Main Street, between Fifth and East Street and bounded on the south by Lincoln or Oak. Another opportunity block with promise exists on the north side of Main, two blocks to the west, between Third and Fourth. This property is smaller and in more than one ownership, the largest being a Chrysler dealership. Another collection of sites exist to the west of downtown, also along Main and west of Elm.

A third grouping of potentially developable building sites exist along Court Street. Some of these may be programmed for other (mainly public) uses but those designations could conceivably change.

Most of these sites are cleared (or nearly so) and lend themselves to new construction, particularly commercial office buildings. The larger sites logically imply large buildings, for the most part single tenants or one major tenant with speculative spaces for smaller tenants. But the range of sites available permits a variety of building types and sizes downtown. There are ample downtown sites where small new office buildings could be constructed.

Opportunity Blocks in Downtown Woodland

1. Fifth, Oak, Lincoln, East. Proposed for a large multi-family housing project, either rental or a combination of rental and for-sale units. Total land area in this parcel is approximately 4.5 acres. The total could be expanded by another .5 acres with closure of

Sixth Street. These parcels have been largely cleared and would be easy to develop. Their proposed Plan designation is residential-multi family. Land uses to the south and west are residential.

2. (a) Main, Lincoln, Sixth, East, and (b) Main, Lincoln, Fifth, Sixth. The former block is presently in public ownership (the City of Woodland owns 1.92 acres of the total 2.53 acre parcel and one-half of the other, two-acre, full block property. The present uses on both of these blocks are marginal and their development would be easy. Proposed Plan designations for both are commercial offices. Their location on Main Street provides excellent exposure.
3. Third, Fourth, Main, Dead Cat Alley. This parcel is approximately 60 feet by 120 feet, or 7,200 square feet, with excellent exposure to Main Street traffic and close proximity to the Opera House Plaza area. The site would support an office or combination office/retail user.
4. The Pepsi Cola building, approximately 100 feet from the intersection of Main and Third Street (and extends 300 feet to Fourth). The property is approximately 25,000 square feet in size. It too is located within one-half blocks of the Opera House Plaza. This site has been proposed for use as a mercado, featuring Hispanic products and food service. Alternative uses would be a combination of retail and offices.
5. Elm, College, Main, Black Cat Alley, and (b) Walnut, Elm, Main, Black Cat Alley. These two blocks contain a number of parcels which could be developed into one large office building or a series of smaller structures. Present land uses include used car dealerships.
6. Northeast corner of Bush and College. This is a roughly 30,000 square foot parcel with two adjacent parking lots. A combination of retail and office uses may be appropriate.



7. Elm, College, Court, North. This large property is slated for public use (new police department), but could be available for commercial development. The site has contamination from its previous user.
8. Main, Elm, Lincoln. A roughly 100,000 square foot property with excellent commercial office and possible retail potential.

New Commercial Office Construction Opportunities

We ran several pro forma calculations of revenues and costs, to determine under what conditions a project could be feasible to prospective developers interested in the Woodland downtown. Three key variables were examined —land costs, construction costs and parking coverages. The magnitude of these variables were varied to determine their implications on space rents and return on investment to developers.

We assumed, in Alternative 1, Table 13, for example, that a developer would acquire land and construct a 40,000 square foot, three-story commercial office building, which would obtain rents at \$1.50 per square foot. We assumed, in this instance, a typical suburban standard of four spaces for each 1,000 square feet of rentable office space, or 160 spaces. Adding in parking, circulation and landscaping to the building footprint results in a total land requirement of some 85,000 square feet. Construction costs were assumed to be \$90 per square foot, including an allowance for tenant improvements, which are in line with new office construction costs for Class I suburban space in Sacramento. Land was assumed to cost \$5.00 per square foot. Conventional financing arrangements are assumed (in this instance permanent financing with a 10 percent interest rate, 75 percent loan-to-value ratio, and a 25-year loan term).

In this scenario, the total project costs are \$5.69 million. The project provides a 9.3 percent before-tax yield stream on an investment of some \$1.84 million, essentially the cost of the land plus interim interest payments. Over a 25-year period the project generates \$4.33 million

in after-tax cash flow. (The building and land also presumably have remaining value at that point, which are not included in the calculations.)

The return on investment implications, when these assumptions are varied, are seen in Table 14. When the parking requirement is decreased to the urban standard of two spaces per 1,000 square feet of office space, in Alternative 3, thus requiring only 51,520 square feet of land area or slightly under 1.2 acres, total project costs decrease to \$5.32 million, investment drops to \$1.72 million, and return on investment increases to 10.68 percent.

The project begins to look interesting from an investment point of view when rents are increased to \$1.60 per square foot and the urban (reduced) parking assumption is employed. In this instance return on investment increases to 12.20 percent (See Table 14.) When the higher parking ratio (four spaces per 1,000 square feet) or higher land prices are assumed (\$8 per square foot), the project requires rents of \$1.70 per square foot to provide R.O.I.'s of at least 11 percent.

When construction costs are increased from \$90 to \$95 and \$100 per square foot, the project can work but rents need to be increased to at least \$1.75 per square foot. If land prices also increase, from \$5 to \$8 in Table 14, the project is viable only if rents are in the \$1.80 range.

The computer runs tell us that land prices are low in downtown Woodland and that is an important advantage to companies seeking new commercial office space with low rents. They also suggest that the costs associated with parking are not a major factor and that companies with a substantial employee parking requirement that also wish to locate their offices in areas where employees have convenient access to urban services (restaurants, shopping, personal, professional, financial, business and governmental services) would find the Woodland downtown ideal. Companies with such requirements are fairly numerous; insurance companies are an obvious example. But the runs also suggest that, as the Woodland downtown develops, land prices will begin to move up and the urban parking standard will make increasing sense in order to make office projects more feasible.



Table 13

CASH FLOW ANALYSIS
OFFICE PROJECT, CITY OF WOODLAND DOWNTOWN, NEW CONSTRUCTION

Alternative 1												compound gr fac 1.05
	1	2	3	4	5	6	7	8	15	20	25	Total
DEVELOPMENT ASSUMPTIONS												
Office Space Developed	40000											
Office Space Rented	0	20000	30000	40000	40000	40000	40000	40000	40000	40000	40000	
Office Rents	1.50	1.58	1.65	1.74	1.82	1.91	2.01	2.11	2.97	3.79	4.84	
Construction Costs P.S.F.	90	(Including Allowance For Tenant Improvements)										
Land Costs P.S.F.	5											
Building Footprint (Sq.Ft.)	14933	(Including 12% Common Area Load Factor)										
Parking Spaces Per 1000 SF	4	(Per 1000 Square Feet of Office Floor Area)										
Total Parking Spaces	160											
Land For Parking	56000	(@ 350 Square Feet Per Stall)										
Total Land Area (Sq.Ft.)	85120	(Including 20% For Landscaping & Circulation)										
OPERATING INCOME (000)												
Gross Income	0	378	595	833	875	919	965	1013	1426	1819	2322	33067
Operating costs & VF	0	151	238	333	350	368	386	405	570	728	929	13227
Net Income B/DS	0	227	357	500	525	551	579	608	855	1092	1393	19840
PROJECT COSTS (000)												
Land Costs	426											426
Construction Costs	4032											4032
Parking & Landscaping	351											351
Other Constr. Costs	0											0
Total Constr. Cost	4383											4383
Incl. Fees & Cont. 20%	877											877
Total Project Costs	5685											5685
FINANCING ANALYSIS (000)												
Interim - Takedown	5260											5260
Loan Fee	105											105
Interest 11%	289											289
Payback	0	5260										5260
Mortgage Takedown 75%		4264										4264
Loan Fee		85										85
Annual Mort. Payment		470	470	470	470	470	470	470	470	470	470	11274
Interest 10%		426	422	417	412	406	400	393	320	229	82	7437
Principal		43	48	52	58	63	70	77	150	241	388	3837
Outstanding Balance		4220	4173	4120	4063	3999	3929	3853	3051	2046	427	

Source: Lord & Associates, Inc.



Table 13

CASH FLOW ANALYSIS, Continued
OFFICE PROJECT, CITY OF WOODLAND DOWNTOWN, NEW CONSTRUCTION
Alternative 1

	1	2	3	4	5	6	7	8	15	20	25	Total
TAX COMPUTATION (000)												
Net Income Before Deprec.	0	227	357	500	525	551	579	608	855	1092	1393	19840
Less Interest	394	512	422	417	412	406	400	393	320	229	82	7917
Less Depreciation	0	210	210	210	210	210	210	210	210	210	210	5049
Taxable Income	-394	-495	-275	-128	-97	-65	-31	5	325	653	1101	6874
Less Income Tax	-134	-168	-94	-43	-33	-22	-11	2	110	222	374	2337
Profit/Loss	-260	-327	-182	-84	-64	-43	-21	3	214	431	727	4537
CASH FLOW ANALYSIS (000)												
Net Income B/Depreciation	0	227	357	500	525	551	579	608	855	1092	1393	19840
Plus Loan Proceeds	5260	4264	0	0	0	0	0	0	0	0	0	9523
Less:												
Project Costs	5685											5685
Debt Service	394	5815	470	470	470	470	470	470	470	470	470	17013
Cash Flow Before Tax	-820	-1324	-113	30	55	82	109	138	386	622	924	6665
Less Income Tax	-134	-168	-94	-43	-33	-22	-11	2	110	222	374	2337
Cash Flow After Tax	-686	-1156	-19	74	88	104	120	137	275	400	549	4328
Cuml. Cash Flow A/Tax	-686	-1841	-1860	-1787	-1698	-1594	-1475	-1338	150	1891	4328	
Disc. Rate of Return B/Tax	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	
Disc. Rate of Return A/Tax	8.53%	8.53%	8.53%	8.53%	8.53%	8.53%	8.53%	8.53%	8.53%	8.53%	8.53%	

Source: Lord & Associates, Inc.

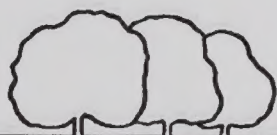


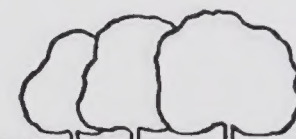
Table 14

RETURN ON INVESTMENT, HYPOTHETICAL 40,000 SQUARE FOOT OFFICE BUILDING
WOODLAND DOWNTOWN, UNDER VARIOUS ASSUMPTIONS

Alternative	1	2	3	4	5	6	7	8	9	10	11	12
Rents Per Sq. Ft.	\$ 1.50	1.50	1.50	1.50	1.70	1.70	1.60	1.60	1.80	1.60	1.55	1.75
Land Price Per Sq. Ft.	\$ 5	8	8	5	5	8	8	5	5	5	5	8
Construction Costs Per Sq. Ft.	\$ 90	90	90	90	90	90	90	90	100	85	95	95
Parking Requirement *	4	4	2	2	4	4	2	2	4	4	2	2
Total Land Area (Sq. Ft.)	85120	85120	51520	51520	85120	85120	51520	51520	85120	85120	51520	61520
Total Land Cost (000)	\$ 426	681	412	258	426	681	412	258	426	426	258	258
Parking Spaces	160	160	80	80	160	160	80	80	160	160	80	80
R.O.I. Before Tax	9.13%	9.15%	9.32%	10.68%	11.15%	10.97%	11.50%	12.20%	11.24%	11.73%	10.30%	12.49%
Total Project Costs (millions)	\$ 5.69	5.94	5.47	5.32	5.69	5.94	5.47	5.32	6.22	5.42	5.58	5.74
Investment (millions)	\$ 1.84	1.92	1.77	1.72	1.82	1.90	1.76	1.71	2.00	1.74	1.81	1.84
Cash Flow Year 25 (millions)	\$ 4.33	3.87	4.66	4.94	6.07	5.62	5.53	5.81	6.13	5.61	4.97	6.43

* Total parking spaces per 1,000 square feet of floor area.

Source: Lord & Associates, Inc.



Building Renovation Potentials Downtown

Building renovation is another excellent investment opportunity in downtown Woodland. In recent years at least five developers acquired and renovated older historic buildings along Main Street. Four of the five appear to have met with success and the fifth is in the process of renovating his building. These buildings include 619 Main, 712 Main, 524 Main, 437 Main, and 615 Main.

These renovated buildings are owned by owner-tenants, who occupy at least a portion of the buildings for their own principal businesses and lease the remainder to other office or retail users. They include an architect, attorney, travel agency operator, computer supply store, and kitchen remodeler. The buildings they acquired were badly run down, with low occupancies and very low rents. Rents typically increased by at least four and five fold upon completion of renovation and space tended to leased up fairly rapidly despite the substantial increase in rents.

In Tables 15 and 16, we examine the return on investment implications to a developer of acquiring an older downtown Woodland commercial building with renovation potential. We have assumed some 9,000 square feet of rentable space in two stories. (Many of these buildings also have basement and mezzanine spaces, which could be leased. We have assumed for simplicity that these spaces were not leased.) Building acquisition and renovation costs, and space rents and absorption rates were all varied to determine the conditions that need to be met to make these projects workable.

As can be seen in Table 15, Alternative 1, if the building is acquired for \$220,000, renovation costs are held to \$50 per square foot, and rents of \$1.00 for main floor retail space and \$.80 for second story office space are achievable, the project generates a return on investment of 12.3 percent. Total investment is \$285,000 and the project returns \$1.4 million over a 25 year period. These returns materialize despite an assumption of a comparatively slow lease-up period, with the building

not achieving a stabilized 95 percent occupancy level until year five. With faster absorption, the project can generate high yields with higher assumed renovation costs (\$60 per square foot, for example, as in Alternative 5). If renovation costs can be held to \$40 per square foot or ground level lease rates of \$1.20 can be achieved, the project also generates high returns on investment.

A housing option was also examined. In this option we assumed the construction of three approximately 1,500 square foot apartment units, each with rents of \$.67 per square foot or \$1,000 per month. Construction costs increase to \$80 per square foot (mainly because of the substantially greater plumbing, appliances and finishing needed to make the units acceptable). Development costs, including original acquisition costs, increase to over \$1 million. Cash flow, given the high investment, is low, as is the developers' return on investment.

These assumptions are but one possible set; they do not preclude other options, although increasing the number of units also increases the building's costs significantly because of the increased complexities of accommodating more people in space that is difficult to subdivide for residential purposes. But this analysis does indicate the problem. Lower rents and higher construction costs than in the commercial office option largely preclude this use until housing rents in Woodland push substantially higher from present levels. This option may make sense sometime in the future, but even then it is contingent upon rents in the future racing ahead of construction costs, which is problematic.



Table 15

CASH FLOW ANALYSIS
WOODLAND DOWNTOWN BUILDING RENOVATION

Alternative 10

compound gr fac
1.04

	1	2	3	4	5	6	7	8	15	20	25	Total
DEVELOPMENT ASSUMPTIONS												
First Floor Space (S.F.)	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Second Floor Space	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Basement/Mezzanine	0	0	0	0	0	0	0	0	0	0	0	0
Total Space	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000	9000
First Floor Rents (P.S.F.)	1.000	1.040	1.082	1.125	1.170	1.217	1.265	1.316	1.732	2.107	2.563	
Second Floor Rents	0.800	0.832	0.865	0.900	0.936	0.973	1.012	1.053	1.385	1.685	2.051	
Mezzanine Rents	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
First Floor Occupancy %	0%	70%	80%	90%	95%	95%	95%	95%	95%	95%	95%	
Second Floor Occupancy	0%	30%	60%	80%	95%	95%	95%	95%	95%	95%	95%	
Basement/Mezzanine Occ.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
OPERATING INCOME (000)												
Income From Rentals:												
First Floor	0	39	47	55	60	62	65	68	89	108	913	2841
Second Floor	0	13	28	39	48	50	52	54	71	86	105	1615
Basement/Mezzanine	0	0	0	0	0	0	0	0	0	0	0	0
Total Gross Income	0	53	75	94	108	112	117	122	160	195	1018	4456
Property Taxes	3	8	8	8	8	8	9	9	10	11	12	239
Insurance	1	2	2	2	2	2	3	3	4	5	6	90
Mgmt, Repairs, Security	1	2	3	3	3	3	3	4	6	8	11	141
Total Expenses	5	12	13	13	13	14	14	15	20	24	30	470
Net Income B/DS	-5	50	72	91	105	109	113	118	154	186	1007	4312
PROJECT COSTS (000)												
Acquisition Cost	220											220
Building Improvements	450											450
Tenant Improvements	56											56
Parking Costs	0											0
Total Constr. Cost	506											506
Fees & Cont. 20%	51											51
Total Project Costs	777											777



Table 15

CASH FLOW ANALYSIS, Continued
WOODLAND DOWNTOWN BUILDING RENOVATION

Alternative 10

	1	2	3	4	5	6	7	8	15	20	25	Total
FINANCING ANALYSIS (000)												
Mortgage Takedown 70%	544											544
Loan Fee	5											5
Annual Mort. Payment	64	64	64	64	64	64	64	64	64	64	64	65
Interest 10%	54	53	52	51	50	49	47	45	28	6	-30	693
Principal	9	10	11	13	14	15	17	19	36	58	94	840
Outstanding Balance	534	524	512	500	486	471	454	435	242	0	-390	
TAX COMPUTATION (000)												
Net Income Before Deprec.	-5	50	72	91	105	109	113	118	154	186	1007	4312
Less Interest	60	53	52	51	50	49	47	45	28	6	-30	669
Less Depreciation	19	19	19	19	19	19	19	19	19	19	19	486
Taxable Income	-84	-22	0	20	36	41	47	53	107	161	1017	3158
Less Income Tax	-29	-8	0	7	12	14	16	18	36	55	346	1074
Profit/Loss	-56	-15	0	13	24	27	31	35	71	106	671	2084
CASH FLOW ANALYSIS (000)												
Net Income B/Depreciation	-5	50	72	91	105	109	113	118	154	186	1007	4312
Plus Loan Proceeds	544					0	0	0	0	0	0	544
Less:												
Project Costs	777			0	0							777
Debt Service	69	64	64	64	64	64	64	64	64	64	64	1602
Cash Flow Before Tax	-307	-13	8	27	41	45	50	54	90	123	943	2476
Less Income Tax	-29	-8	0	7	12	14	16	18	36	55	346	1074
Cash Flow After Tax	-279	-6	8	20	29	31	34	36	54	68	597	1403
Cuml. Cash Flow A/Tax	-279	-285	-276	-256	-227	-196	-162	-126	196	507	1403	
Disc. Rate of Ret. A/Tax	12.31%	12.31%	12.31%	12.31%	12.31%	12.31%	12.31%	12.31%	12.31%	12.31%	12.31%	

Source: Lord & Associates, Inc.



Table 16

RETURN ON INVESTMENT, HYPOTHETICAL RENOVATED COMMERCIAL BUILDING WOODLAND DOWNTOWN, UNDER VARIOUS ASSUMPTIONS

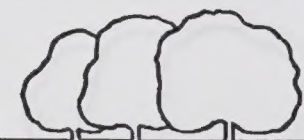
Alternative	1	2	3	4	5	6	7	8	9	10	11	12
Building Acquisition Cost (000)	250	250	250	180	250	250	250	180	250	220	220	200
Renovation Costs Per Square Foot	40.00	50.00	60.00	60.00	60.00	40.00	60.00	60.00	60.00	50.00	60.00	50.00
Rents Per Square Foot												
First Floor	1.00	1.00	1.00	1.00	1.20	1.00	1.00	1.00	1.20	1.00	1.20	1.00
Second Floor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.70
Space Absorption Rate	A	A	A	A	A	B	B	B	B	B	B	B
R.O.I. Before Tax	14.86%	12.15%	9.88%	11.44%	12.13%	14.14%	9.43%	10.92%	11.60%	12.31%	12.24%	11.77%

Note: Space Absorption Assumptions:

A = First floor, 70% in year two, 95% thereafter; second floor 50% year two, 75% year 3 and 95% year 4.

B = First Floor, 70%, 80% and 90% in years 2 through 4; second floor 30%, 60% and 80%, years 2,3 and 4, and 95% thereafter.

Source: Lord & Associates, Inc.



New Residential Construction Opportunities Downtown

New residential construction downtown is another matter. A one-and-a-half block parcel bounded by Lincoln, Oak, Fifth and East could be developed into a major residential project of between 100 and 200 new dwelling units, either garden apartments or a combination of rental and for-sale housing. With closure of Sixth Street the property could be developed with considerable ambience. This property would be well suited to residential uses; there are ample numbers of better located parcels available for commercial use in the Woodland downtown. Given the very tight present residential market, continued rapid growth in population in the region, limited supplies of developable land for housing in Woodland, and very convenient access to two major freeways serving Woodland, these properties would appear to be developable within the very near future. Combined with development of commercial office projects on adjoining blocks to the north, the eastern portion of the Woodland downtown will begin to be an attractive environment and provide a strong boost to the remainder of the downtown area.

Table 17 examines the cash flow implications of their development. In this scenario, a 100-unit apartment complex is assumed with rents of \$.85 to \$.95 cents per square foot for a combination of one and two-bedroom units. Land prices are assumed at \$2.50 per square foot and total development costs are on the order of \$6.4 million. The investment requirement is \$1.9 million and return on investment is 11.5 percent.

To be successful, downtown restorations need a nearby residential population. Such residents spend time in the downtown, supporting businesses, making the area a 16-hour commercial zone, giving it life. It also adds to the stock of new structures downtown, thereby improving its overall image and appearance.

Future Retailing in Downtown Woodland

Old downtowns must above all become entertainment and commercial service centers if they are to stage comebacks. As a minimum they must offer restaurants. If movie or spoken arts theaters can be supported, so much the better.

The retail uses that make sense are comparison goods. Home furnishings, housewares, book stores, art galleries and antique stores work well with the restaurants. Apparel, shoes, sporting goods, hardware stores are possible but more difficult to make work as a result of the emergence of the large discounters.

The kind of retail tenants that are more likely to be successful downtown are those that offer higher priced and unusual or non-standardized merchandise not typically found in the regional shopping centers or large discounters. The vast majority of new tenancies will be local or smaller regional independents or national tenants that seek more unique environments or free-standing sites. They will not be the large chain stores except in unusual instances. Older downtowns have been making comebacks throughout California over the past two decades despite this limitation. The reason is the business formation rate has been very high in the past decade in the U.S., despite comparatively slow economic growth, with most of the new employment growth in small companies, and small companies are considerably more experimental in choice of business locations. Examples of relevant specialty stores include those selling optical and photographic supplies, recordings, luggage, gifts and stationary, but a host of other items would be relevant.

Good commercial areas tend to be dynamic, with retail tenants changing frequently because consumer tastes change, and new products and new commercial areas emerge, thereby creating competition. Many of the stores that were popular ten years ago are now out of business, but new stores have taken their place, the those frequently have the same owners. While retailing is a moving target, it has, with the exception of the past two recessionary years, been very viable.



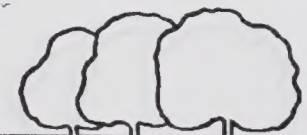
Table 17

CASH FLOW ANALYSIS
CITY OF WOODLAND DOWNTOWN AREA APARTMENTS

Alternative 1

	1	2	3	4	5	6	7	8	10	15	20	25	Total
DEVELOPMENT ASSUMPTIONS:													
One BR Units Developed	50												50
Two BR Units Developed	50												50
One BR Units Rented		50	50	50	50	50	50	50	50	50	50	50	50
Two BR Units Rented		50	50	50	50	50	50	50	50	50	50	50	50
One BR Unit Rents		665	698	733	770	808	849	891	983	1254	1600	2043	
Two BR Unit Rents		935	936	937	938	939	940	941	943	949	954	959	
One BR Const. Costs	42000												
Two BR Constr. Costs	55000												
OPERATING INCOME (000)													
Gross Income		960	981	1002	1025	1049	1073	1099	1156	1322	1533	1801	31394
Less:													
Property Taxes		51	52	53	54	55	56	58	60	66	73	81	1554
Other Op. Costs & VP		275	281	288	294	301	309	316	333	383	448	532	9120
Net Income Bef/Debt Serv.		634	647	661	676	692	708	726	763	872	1012	1189	20720
PROJECT COSTS (000)													
Land Area (Acres)	5												5
Land Costs	545												545
Construction Costs	4850												4850
Site Prep, Utilities	17												17
Covered Parking	80												80
Parking & Landscaping	160												160
Total Constr. Costs	5107												5107
Fees & Contingencies	766												766
Total Project Costs	6418												6418
FINANCING ANALYSIS (000)													
Interim Loan	5873												5873
Loan Fee	88												88
Interest 10%	294												294
Payback		5873											5873
Mortgage Takedown 75%		4813											4813
Loan Fee		72											72
Annual Mort. Payment		511	511	511	511	511	511	511	511	511	511	511	12254
CASH FLOW ANALYSIS (000)													
Net Income B/Depreciation	0	634	647	661	676	692	708	726	763	872	1012	1189	20720
Plus Loan Proceeds	5873	4813											10686
Less:													
Project Costs	6418												6418
Debt Service	382	6456	511	511	511	511	511	511	511	511	511	511	18581
Cash Flow Before Tax	-926	-1009	137	151	166	181	198	215	252	362	501	678	6408
Cuml. Cash Flow B/Tax	-926	-1935	-1799	-1648	-1482	-1301	-1103	-888	-402	1176	3389	6408	
Disc. Rate of Ret. B/Tax	11.46%	11.46%	11.46%	11.46%	11.46%	11.46%	11.46%	11.46%	11.46%	11.46%	11.46%	11.46%	

Source: Lord & Associates, Inc.



One of the things that makes traditional downtowns attractive and workable is they have a mix of public uses. Post offices are particularly important elements as they generate foot traffic and therefore support nearby businesses. Other public uses have been identified and considered in the City's Downtown Plan deliberations.

Convenience stores, on the other hand, do not generally make sense in downtowns the size of Woodland's. These uses push for parking in the front of their buildings, for the convenience of shoppers, and those demands come into conflict with the design requirements for making older downtowns into villages, giving them the ambience that makes people wish to visit, shop casually and spend time. That does not mean, however, that items typically found in convenience centers would have no place in downtown Woodland. Shops selling quality coffee, tea, wine, cheese, bakery goods, a large delicatessen with high quality foodstuffs, would be prospects. These items are in reality "shopper" or comparison goods and would tie in effectively with the restaurants, housewares and other stores noted above.

Downtowns also come back because they attract large numbers of professional, business, personal, financial and governmental services. Having a daytime office population helps make the restaurants and shops viable.

SUPPLY SIDE CONSTRAINTS TO DOWNTOWN DEVELOPMENT

The five renovated buildings demonstrate that there is latent demand for upgraded retail and office space in the older historic buildings in downtown Woodland and that the problem has not been one of demand but rather supply, finding sufficient numbers of developers to take on the risks connected with restoration. Another constraint downtown is an adequate number of buildings to restore at prices where restoration is a feasible alternative. A third potential constraint, one that is not apparent at present but that will surface as the area begins to rebuild, is an adequate supply of land for new construction.

The Need for Movement in the Downtown Building Market

Appearances to the contrary, one constraint to downtown building renovation is finding buildings to restore. In one sense there are ample opportunities in downtown Woodland, with its large stock of older, rundown buildings with high vacancies, particularly in second story spaces, and low rents. But the realtors report a high percentage of downtown buildings are owned by older residents and absentee owners with no strong incentives to sell. Many of the buildings have been in families for many years, indeed in some cases generations, and the original acquisition prices were very low compared with the present. In many cases prices have increased tenfold or more, putting the owners in position of having to pay a substantial capital gains upon sale of these properties. This dilemma has discouraged owners from putting their properties on the market, thereby keeping the supply price of the buildings high despite their age and condition. When these buildings pass on to heirs their taxable basis becomes their present value, making them considerably more feasible as saleable assets. But the experience to date with these transitions has been somewhat disappointing. Many of the inheritors have chosen to retain ownership in the buildings but make no improvements, or place them on the market at inflated prices.

The City has some options to encourage more of these buildings to be sold. One is condemnation. This is a word with very negative connotations, as it brings up images of the old federal urban renewal days, when local redevelopment agencies, heavily armed with substantial amounts of federal monies, and a readiness on the part of the courts to grant condemnations, combined to severely disrupt many neighborhoods and central business districts in U.S. cities. Many of their acquisitions were the result of heavy handed condemnation procedures, with many innocent families and businesses dislocated with minimal compensation. Modern day redevelopment, using the California Redevelopment Act as its principal tool, is a much less disruptive practice. Condemnation is rarely used, only in instances where it can clearly be demonstrated that the public welfare is greatly at risk if a given property remains in its present hands. But discretely used, at least as a threat, it can be an important tool.



A much better procedure is the use of friendly persuasion. Often owners are operating on old or inadequate information regarding the tax or other economic consequences of their sales. Owners in many cases may be better off selling their buildings, paying the high capital gains tax and reinvesting the proceeds in more liquid assets such as bonds. This option may have made much sense in the recent past when yields on high rated corporate bonds were at 10 percent or more. The case can frequently be made in those instances where buildings have very low rents and high present reuse values. These owners are good prospects for switches. Ten thousand square foot buildings with values on the order of \$200,000 and generating rents of \$.30 to \$.50 per square foot are bad investments if their owners' principal objective is cash flow.

An even better procedure is the use of friendly condemnation. In this instance land owners agree to let the City condemn their properties and sell them to third parties. In this instance the property's basis for tax purposes is what the condemning agency pays for the property.

Other options are available. Since this is such a pervasive problem, it is one which interests many other cities as well, and should probably be given to the California State Legislature to seek a solution. One such policy may be state capital gains tax abatement on buildings meeting certain qualifications. The outlook for such a measure passing at this point (in the middle of a recession and state government budget crisis) is very low but conditions will not always be so bleak.

Financial Assistance for Downtown Renovations

Another solution to the problem of encouraging more active development in its older downtown commercial buildings is for the City to provide assistance, in the form of low interest loans or even grants, to building renovators whose projects have strong merit. Such a loan or grant program could make the difference in whether some buildings are renovated or may have to be razed or left rundown and underdeveloped. Particularly costly renovations, or those of merit where conventional banks are, for one reason or another, reluctant to make commitments, may be turned into feasible ventures by such a program.

The City could do this through use of its tax increment financing powers (to be discussed below).

The problem with such programs is the potential for abuse. The potential is high that everyone interested in development in downtown Woodland will seek these funds, whether they are needed or not. To prevent abuse, the City will need to (1) carefully outline the conditions or criteria that will need to be met before it will provide assistance, and (2) limit the funds available each year for this purpose so the Redevelopment Agency's scarce resources are used efficiently. Judiciously used, this program could materially help accelerate the pace of downtown renovation.

The use of Agency financial assistance for facade improvements is another logical and potentially salutary area of direct financial participation on the part of the City of Woodland and its Redevelopment Agency. Generally, cities establish funds for such improvements, offering either low interest loans or guaranteeing the loans of commercial banks. Such programs have had a mixed response in California but the cities that have employed them and also actively *promoted* them, have had beneficial results. If the facades of a high percentage of buildings are renovated, the investments are quickly paid for in the greater foot traffic and higher sales volumes. This is a program the City of Woodland should take seriously.

Many of the larger cities, such as San Francisco, Portland, San Jose and Oakland, have done major multi-block projects on a partnership basis with large developers. The City of Monterey used its redevelopment powers to help build a convention hotel and convention facilities and to beautify its downtown, including considerable historic preservation work in the process.

But participation on the part of the City of Woodland in commercial joint ventures is premature at this point. It has more pressing uses of its funds at this point. Use of its resources later as a means of removing



bottlenecks, or making interesting projects with major obstacles viable by helping remove those obstacles, would be a sensible use of Redevelopment Agency funds, assuming such funds are available.

Parking as a Determinant of Downtown Development

Another constraint, non-existent at the present time but potentially a factor in the not-too-distant future, is a diminishing supply of opportunity blocks, land available for new development. Matching supply and demand potentials discussed above suggests land could be a problem much sooner than later in the Woodland downtown, and this problem is complicated by a competing demand for land potentially available in downtown Woodland for development. The principal competing land use is parking. This problem is examined below.

Building renovations are important to downtown development because they given character and charm to older downtowns. But without new investment the potential for bringing downtowns back is restricted. New investment, in the form of office and other commercial buildings, is needed to attract a broader array of tenants and employees downtown and a broader range of interesting land uses. Second, new buildings usually generate greater additions to assessed valuation downtown, thus permitting a much faster increase in the property tax revenues that are needed to pay for required public improvements downtown.

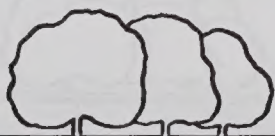
But a potentially controlling influence on new investment in some downtowns is limited supply of land. If there are too few opportunity blocks, landowners can afford to hold out for the highest bidder and relatively little new construction will surface. The city, then, needs to both identify and encourage the availability of opportunity blocks downtown in order to meet the overall objective of attracting sufficient private sector investment.

Similarly, the City needs to carefully balance its downtown parking resources so there are sufficient spaces to efficiently meet the needs of

shoppers and tenants but not encourage so many parking spaces that it reduces an important asset, land available downtown for private investment. It needs to manage its parking resources to maximize efficiencies in the use of this land. The most appropriate way to do this is through tightly controlling the mix of short and long-term parking spaces downtown. It can encourage downtown businesses to require employees to use parking lots and on-street parking spaces outside of the core. And the City can build short-term parking downtown rather than encourage building owners to provide the spaces, thus having an important influence on where parking is provided downtown and how land is used there. We urge the City to take charge of its downtown parking resources, paying for them through the use of a combination of redevelopment tax increment monies, in lieu parking fees, and/or a parking district.

Attitudes regarding how much parking downtowns require in order to stage comebacks have been slowly changing, away from the norms that dominated city planning in the thirty years following World War II. There has been a realization that downtowns began to lose their viability when the big malls surfaced and the downtowns tried to compete on their terms, by integrating substantial parking. One typical pattern that emerged was a checkerboard of buildings connected to adjacent parking lots. It did not work.

The new approach to downtown planning is characterized more by cities such as San Francisco, Portland, Mill Valley, Carmel, where parking limits are actively pursued. The two large cities discourage parking connected with office buildings except for a comparatively small number of spaces for executives of key tenants and short-term parking for visitors. The two smaller cities actively limit the number of off-street parking spaces and encourage mainly short-term parking usage of on-street parking located within the actual downtown commercial cores. The results have been spectacular; all four communities have attracted enormous new patronage and investment to their downtowns.



Are these cities representative? Do they provide a useful model for Woodland? They are certainly not models; all four are very unique communities. But they are useful for illustrating a point. There is probably a general perception that these city's downtowns are popular despite their parking problems but the reality is they are to a significant extent popular because of them. If, in any of these downtowns, more conventional downtown parking practices were followed, placing, for example, numerous parking garages or off-street surface parking lots behind or next to the row of buildings that string along their key downtown streets, it is highly doubtful these communities would be as popular today. They are popular because of the intensity of development downtown, and that intensity has permitted much more diversity in the land uses downtown. These are useful objectives for any downtowns wishing to stage comebacks, and if the principal is likely to yield less dramatic results in communities less well endowed with amenities than the above four, it does not mean that the principal is defective but rather that there are other influences at work as well that govern success and failure in downtowns.

Since land is presently in ample supply in downtown Woodland and is potentially a key resource in the attraction of potential employers, a sensible strategy for the community would be to employ two standards downtown, a suburban standard of, for example, four spaces per 1,000 square feet of office space on properties peripheral to the downtown core blocks of, say, Cleveland, Court, Fourth and Lincoln, and a tighter urban standard (two or fewer spaces per 1,000 square feet) for new construction within that core area. This would allow the core to eventually be densely developed but not discourage near-term office development downtown.

PAYING FOR THE PLAN: REQUIREMENTS & POTENTIALS

The principal source for paying for downtown revitalization today is use of the California Redevelopment Law. But other, largely supplemental procedures, are available and can be used from time to time.

Use of the Tax Allocation Financial Mechanism

At the time of this report no cost estimates have been developed for improvements connected with the most recent Downtown Committee/Michael Black & Associates downtown Plan recommendations. Most downtown revitalization efforts, for cities with the size and other characteristics found in Woodland, range, in 1992 dollars, from about \$3 million to a maximum of \$8 million. The principal thrust in most cities is beautification, through the planting of trees and other landscaping materials, street paving, sidewalk enhancement, street furniture, new lighting. This effort should cost no more than \$2.5 million to \$5 million in Woodland. These costs will depend upon how extensive the effort is and how widespread the actual Plan boundaries are. Cities also usually provide grants or guarantee loans for facade, seismic and signage improvements, and utility replacements for individual buildings.

Also unclear is the extent to which the downtown utility and roadway network will need overhauling. The cost of providing for additional parking downtown is also not included in this total. These costs could easily add another roughly \$2 million to \$5 million or more by the time all detailed design studies are in and the passage of time raises costs through inflation. We have used \$7 million as our target for downtown improvements, but the actual magnitude of improvements could substantially exceed this total.

Both the form and magnitude of the revitalization effort in downtown Woodland will depend heavily on the availability of municipal financial assistance. A number of actions are possible, but to do anything comprehensive downtown would require use of redevelopment agency funds. The City has a district in place. Use of redevelopment procedures permits a broad variety of actions, including land acquisition, assembly and disposition, a variety of street, utility and other improvements, relocation assistance, demolition, clearance, building and site improvements, street beautification (landscaping, furnishings, lighting), to name a few.



Projections of increased assessed valuation and incremental tax income available to the Woodland Redevelopment Agency are shown in Table 18. Assessed valuation projections found in Table 18 are based on three assumptions:

1. The redevelopment boundaries include properties within the central area which, in fiscal year 1990-91 had total assessed value of some \$198.5 million. These properties will increase in value on average at a rate of 3.5 percent per annum (they are escalated by the County at two percent unless ownership turns over, at which time they are reassessed to present sale values).
2. New construction in line with findings in Section II. As was seen, average annual absorption of 73,000 square feet of retail space, and 29,000 square feet of commercial office space, appeared likely in Woodland in light of investment trends in the city, county and region. As was seen, how much of this will end up downtown will depend to a great extent on the level of investment the City makes downtown. We have assumed a strong commitment on the part of the City for downtown public improvements, and that 20 to 30 percent of the total commercial investment within the City of Woodland will end up downtown over the next decade, for a total of some 20,000 to 30,000 square feet of both new and renovated space. Multiplying the more conservative 20,000 square foot estimate by anticipated construction costs of \$65 per square foot (to include both new construction and renovations) provides average annual increases of \$1.6 million in assessed value from new commercial construction within the redevelopment boundaries. This number increases by a five percent annual escalation factor. We assume this activity continues for ten years. Investment could conceivably slow down after that period, as the downtown begins to run out of easily developed land. But the first ten years are critical for accomplishment of downtown Plan objectives.

3. The redevelopment project boundaries also includes the potential for considerable residential development. As was seen above, there are two large blocks bounded by East, Fifth, Oak and Lincoln where between 100 and 200 new garden apartment units could be built in the very near future. We have assumed this housing will be constructed and another \$1.1 million (roughly 20 units) in assessed value will be added each year within the project boundaries (also escalated at five percent). (Obviously housing would be built in much larger increments; the procedure of using an average precludes the necessity of having to identify when such housing is likely to be constructed.)

Under the above conditions, total assessed value increases from its present, 1991 value of \$198 million to \$287.6 million by the year 2000 and \$642 million by 2020. Tax increment revenues average \$589,000 over the first ten years. After housing set-asides, some \$4.7 million in tax increment revenues remain for downtown improvements during this first ten-year interval.

Occasionally downtown improvements are made all at one time, but increasingly they are phased over time, through issuance of serial bonds. The cost per year to the City of Woodland of amortizing bonds issued should be on the order of \$80,000 in 1991 dollars for each \$1 million of actual Plan improvements.

As is seen in Table 19 and in last three columns in Table 18, the City's redevelopment agency could issue, under these assumptions, \$1 million of tax allocation bonds each year for ten years. Monies available for non-housing projects increase from \$83,000 in year one to \$161,000 in year two, \$241,000 in year three, and so on (fourth column from the right). Debt service (third column from the right) for bonds issued increase each year in increments of \$80,000 (but escalated at five percent each year to counter inflation). This leaves the agency's cash flow to build up each year, to \$590,000 by year ten (the last column in the table). Under these assumptions the city would be able to complete all or most of its downtown improvement program within ten years, and possibly faster if growth occurs faster in the area or if additional

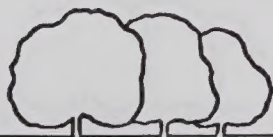


Table 18

**PROJECTED PROPERTY TAX INCREMENTS, DEBT SERVICE & CASH FLOW
PROPOSED CITY OF WOODLAND DOWNTOWN REDEVELOPMENT AREA, 1992 TO 2021**

\$ 000 Omitted

Period	Year	Property Tax Base (\$000)	Annual Commercial Space Additions (\$000)	Annual Resi- dential Addi'tns (\$000)	Cumulative Impact of Space Additions	Property Value, Total	Incre- mental A.V.	Prop. Tax Incram.	Housing Set Aside	Available For Other Redevelop Projects	Debt Service, \$10 Million Serial Bond Issue	Agency Cash Flow	Cumulative Cash Flow
1	1992	198472	0	0	0	198472	10410	104	21	83	0	83	83
2	1993	205419	1625	1120	2745	208164	20102	201	40	161	80	81	164
3	1994	212608	1706	1176	5627	218235	30173	302	60	241	164	77	241
4	1995	220049	1792	1235	8654	228703	40641	406	81	325	252	73	314
5	1996	227751	1881	1297	11831	239582	51520	515	103	412	345	67	382
6	1997	235722	1975	1361	15168	250890	62828	628	126	503	442	61	442
7	1998	243973	2074	1429	18671	262644	74582	746	149	597	544	53	495
8	1999	252512	2178	1501	22350	274862	86800	868	174	694	651	43	538
9	2000	261350	2287	1576	26212	287562	99500	995	199	796	764	32	570
10	2001	270497	2401	1655	30268	300765	112703	1127	225	902	882	20	590
11	2002	279964	2521	1737	34526	314491	126429	1264	253	1011	1006	5	595
12	2003	289763	1303	1824	37654	327417	139355	1394	279	1115	1006	109	704
13	2004	299905	1368	1916	40937	340842	152780	1528	306	1222	1006	216	920
14	2005	310401	1437	2011	44385	354787	166725	1667	333	1334	1006	328	1247
15	2006	321266	1508	2112	48006	369271	181209	1812	362	1450	1006	443	1691
16	2007	332510	1584	2218	51807	384317	196255	1963	393	1570	1006	564	2254
17	2008	344148	1663	2328	55798	399946	211884	2119	424	1695	1006	689	2943
18	2009	356193	1746	2445	59989	416182	228120	2281	456	1825	1006	819	3762
19	2010	368660	1833	2567	64390	433049	244987	2450	490	1960	1006	954	4716
20	2011	381563	1925	2695	69010	450573	262511	2625	525	2100	1006	1094	5810
21	2012	394917	2021	2830	73862	468779	280717	2807	561	2246	1006	1240	7049
22	2013	408739	2122	2972	78956	487696	299634	2996	599	2397	1006	1391	8440
23	2014	423045	2229	3120	84305	507350	319288	3193	639	2554	1006	1548	9988
24	2015	437852	2340	3276	89921	527773	339711	3397	679	2718	1006	1711	11700
25	2016	453177	2457	3440	95818	548995	360933	3609	722	2887	1006	1881	13581
26	2017	469038	2580	3612	102010	571048	382986	3830	766	3064	1006	2058	15639
27	2018	485454	2709	3793	108512	593966	405904	4059	812	3247	1006	2241	17880
28	2019	502445	2844	3982	115338	617784	429722	4297	859	3438	1006	2432	20311
29	2020	520031	2986	4181	122506	642537	454475	4545	909	3636	1006	2630	22941
30	2021	538232	3136	4391	130033	668265	480203	4802	960	3842	1006	2835	25776
Total			60231	69801	1649292	11894948	6253088	62531	12506	50025	24248	25776	181767

Assumptions:

Annual commercial space additions of 25,000 square feet multiplied by \$65 per square foot.
Twenty housing units built on average annually, with construction costs of \$56,000 each.

Source: Lord & Associates, Inc.

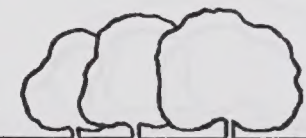
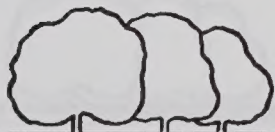


Table 19

DEBT SERVICE, SERIAL BONDS ISSUED TO PAY FOR CITY OF WOODLAND
DOWNTOWN REDEVELOPMENT AREA PROJECT IMPROVEMENT

Period	Issue #1	Issue #2	Issue #3	Issue #4	Issue #5	Issue #6	Issue #7	Issue #8	Issue #9	Issue #10	Total Annual Debt Service
1											0
2	80000										80000
3	80000	84000									164000
4	80000	84000	88200								252200
5	80000	84000	88200	92600							344800
6	80000	84000	88200	92600	97200						442000
7	80000	84000	88200	92600	97200	102100					544100
8	80000	84000	88200	92600	97200	102100	107200				651300
9	80000	84000	88200	92600	97200	102100	107200	112600			763900
10	80000	84000	88200	92600	97200	102100	107200	112600	118200		882100
11	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
12	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
13	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
14	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
15	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
16	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
17	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
18	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
19	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
20	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
21	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
22	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
23	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
24	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
25	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
26	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
27	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
28	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
29	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
30	80000	84000	88200	92600	97200	102100	107200	112600	118200	124100	1006200
Total	2320000	2352000	2381400	2407600	2430000	2450400	2465600	2477200	2482200	2482000	24248400

Source: Lord & Associates, Inc.



funds are found from other sources. Obviously, the agency would have the option of issuing bonds in different increments or intervals, such as \$2 million every two years.

After that period the City's complicated arrangement with Yolo County government kicks in and a sizeable share to the Woodland Redevelopment Agency's funds are diverted. But this ten year interval should be sufficient to get the Woodland downtown off to a strong and healthy revitalization.

Other Relevant Financing Mechanisms

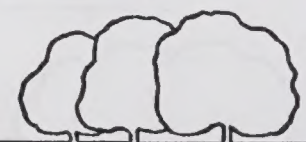
1. In the past many cities relied on the formation of local improvement districts (LID's) to revitalize their downtowns. Martinez, Petaluma and Santa Cruz all relied on this approach, for example. But this approach is a much less effective approach today. Merchants are directly assessed, thereby diluting the pool of funds needed within these businesses to meet capital and operating requirements. The approach is therefore much more difficult to sell to local businessmen, particularly in the tenuous economic conditions found at the time of this writing. The amount of potential funds available for downtown public improvements are also substantially lower. In contrast, redevelopment is a relatively painless procedure. In fact, if redevelopment funds are not used by the City, they revert to the State. Use of LID's for more specialized downtown needs, such as parking, is not precluded on the other hand.
2. One source of funding used in the past was the linking of local government expenditures with state and federal sources. In the past urban renewal funds, block grants, transportation and utility funds were available from federal agencies. Combined with local contributions and frequently a state share as well, these grants and loans enabled cities to complete a number of major projects that otherwise would not have been possible. But those days are over, at least for the present and for downtown redevelopment efforts. Both the State of California and the federal government are plagued with major deficits and until those problems are resolved

or significantly modified the outlook for funding from those sources is almost nil.

3. Another fashionable idea used in some cities in the past several years is public - private partnerships. Cities link some of their assets (such as land, lower cost borrowing capability, or cash resources) with developers who have the expertise to pull off complicated redevelopment efforts. They work out a formula for sharing both costs and revenues from these projects. Some of these projects have been very successful and some have not.

Although nothing is apparent at this time, there may be opportunities to use this option in the future in the downtown, to the mutual advantage of both the City and developers. Renovation of the Woodland Hotel may be one possibility.

4. The city could form a parking district as another vehicle for paying for more parking in the central area. In this case the principal beneficiaries, the downtown merchants and landowners, pay for parking improvements downtown. This option should probably be held back, to be employed only if and when the downtown begins to experience parking pressures and becomes in need of supplemental measures. Or the City can begin a program of acquisitions of land for small, well landscaped long-term parking lots on the periphery of the downtown and paying for these over a ten or more year interval.
5. The city should use in-lieu parking fees to help pay for parking downtown, instead of requiring on-site parking for commercial buildings built within the downtown core. These are legitimate levies and most cities use them. But the fees need to be assessed so they do not preclude development downtown. The most appropriate way to do this is to compare its in-lieu fees with those of other cities, taking into consideration the range of differences between those cities, including the amount of parking that the City of Woodland provides in return for these fees.



6. For the Woodland revitalization effort to be effective, it is important that the City of Woodland now focus its efforts on downtown over at least the next five years, and follow consistent policies designed to support that area. Further commercial development in the community within at least that interval needs to be reviewed for its impact on downtown.
7. Supplemental funds for facade or seismic improvements are made available in many communities, either through grants, subsidized loans or loan guarantees. These are important programs and, where they have worked, have proven to be critical factors in downtown revitalization efforts. The problem with these programs is resistance from building tenants and owners, who do not like to be encumbered (facade improvements can be very expensive), feel design recommendations that usually accompany these programs are an invasion of their rights, or object in other ways. Downtown Woodland could probably benefit from the unifying thematic approach implicit in facade improvements. A drive on the part of the community's leadership to encourage these programs Downtown would be required, along with the development of the detailed procedures connected with the programs themselves.



V. SUMMARY, CONCLUSIONS, PRIORITIES

1. Population growth has been rapid in Yolo County over the past decade, a 2.8 percent rate. Woodland has been a principal recipient of that growth. It has 28 percent of the County's total population but accounted for 35 percent of the total increase in the past decade.
2. Woodland is rapidly becoming a major distribution center, because of its proximity to both the Sacramento and San Francisco metropolitan areas and to two freeways that link Sacramento to all other major Pacific Coast cities.
3. Family incomes are also growing in Woodland, as it is attracting growing numbers of young professionals and managers with relatively high incomes.
4. Woodland accounts for a high percentage of Yolo County's retail sales, 37 percent in 1989, and a very high percentage of the County's comparison goods sales (61 percent). Woodland is a commercial center for a geographic area that extends as far away as Colusa and Sutter counties.
5. Development opportunities in downtown Woodland are promising in light of very rapid growth in the greater Sacramento Metropolitan Area and in Yolo County in particular. As was seen in Sections I and II, population has been growing during the past decade at a rate of 2.8 percent in Yolo County, three times that of the U.S. as a whole. Population and employment growth in the county will support another 2.2 million square feet of retail space and one million square feet of office space during the next decade. The office space estimate may prove low as the area matures and office employment opportunities disperse, as they have in other metropolitan regions.
6. This pattern is expected to continue, possibly even accelerate, providing the City of Woodland takes action allow further residential development within its boundaries. It is rapidly running out of land within its existing city limits.
7. Given trends in the region, Yolo County will require another 2.2 million square feet of retail space over the decade of the 1990's to meet the needs of its citizens. Woodland could support 770,000 square feet of new space.
8. An additional one million square feet of commercial office space will be supportable in Yolo County over the next ten years. Woodland is expected to account for 290,000 square feet of that total.
9. These estimates could prove to be low. Woodland attracted 43 percent of Yolo County's total commercial investment between 1970 and 1989, and 51 percent of the total since 1984. Despite its strong showing, Yolo County loses retail sales to Sacramento (leakage), and Yolo accounts for only about seven percent of the metropolitan area's total office employment, with ten percent of its population. The trend in large metropolitan areas is for decentralization of many office functions, and this is likely to happen in the Sacramento area, to the advantage of satellite communities such as Woodland.
10. Woodland, the principal recipient of the growth in Yolo County, has the potential for attracting a substantial share of this total. It has 28 percent of the county's total population, but accounted for 35 percent of the total increase in the past decade. Past trends in retail sales, employment and commercial investment suggest Woodland has the potential of attracting 33 percent of the county's retail space demand and 29 percent of its net new office space demand.



11. Downtown commercial development potentials appear strong in light of trends in the region and the tendency for older downtowns to make comebacks after a sufficient time elapses from the introduction of regional shopping centers. But that potential depends heavily on the City of Woodland following through with a comprehensive upgrading effort downtown, in order to improve its attractiveness to investors. Public investments downtown include beautification, street and utility replacements, landscaping and other programs aimed at upgrading and changing the character of downtown.

Emphasis also needs to be given to public solutions to parking, in contrast to measures used in the past that stressed on-site parking for customers provided by individual building owners.

12. The Woodland downtown appears primed for a comeback. It withstood the impacts of the County Fair Mall and a serious economic recession in the U. S. The experience in other cities suggests that the older, traditional downtowns heavily hit by new regional centers usually begin to come back after about ten years, provided appropriate actions are taken by their city governments.
13. Ample development opportunities presently exist downtown. Several very promising opportunity blocks which would be ideal for small to medium-sized, low profile office buildings designed for tenants serving the regional market, are available. And several developers have successfully renovated older buildings on and around Main Street for combination retail and office uses.
14. But before the level of investment downtown begins to increase, the City must first take some actions. The most obvious is a beautification effort downtown. A program featuring landscaping, paving, street furniture, lighting, facade improvements and other measures to upgrade the appearance of downtown is absolutely essential before larger numbers of investors will begin taking the area seriously.

15. The redevelopment district serving downtown should have ample potential funds to support this and other downtown programs. The City could issue \$1 million in tax allocation bonds annually over the next ten years, providing it takes action to upgrade its downtown and actively promotes developer interest in the area.
16. The City needs to balance its land resources downtown, providing sufficient parking to meet the needs of its retailers and office tenants but not to the point where it reduces the number of opportunity blocks available for developers or reduces the interest and amenities that more tightly developed downtowns provide. These goals can be met by a sensible parking management program.
17. The City also needs to help induce more of its older buildings to reach market at realistic price. The tax codes and other institutional rigidities in the U.S. provide in many cases negative incentives for owners to sell to developers. A variety of techniques, reviewed in the report, are available to help mitigate this problem.
18. Providing monetary assistance to developers of problem buildings downtown is another way the City can increase the supply of buildings available, but the definition of what is a problem building and the extent of aid given need to be tightly established.
19. There is an excellent opportunity for housing downtown. Two large blocks on the eastern edge of the central area would be ideal for a garden apartment complex. Limited supplies of housing in Woodland and a potentially very interesting location, in close proximity to the City's emerging commercial core and with excellent freeway interest. Such a project would, in turn, have a restorative effect on downtown.
20. The principal funding source for these improvements is use of tax allocation bonds. Peripheral parking improvements could be paid



for partly through redevelopment monies but formation of a parking district if and when necessary may be a better solution.

21. The number one priority for the City with respect to its downtown needs to be a serious beautification effort once its Plan receives Council approval. The City cannot expect investors to take the area seriously if it does not make key investments of its own to upgrade and enhance public spaces and facilities downtown. Announcement of a program of comprehensive improvements downtown will put investors on notice that the community is moving to implement its downtown Plan and develop the amenities and interest implicit in that Plan. New investment downtown will make other City programs possible there.
22. The additions of new office buildings, residential development, upgrading of older buildings, and a strong beautification effort, will appreciably strengthen the specialty retailing, restaurants and various entertainment activities found downtown. The potential for expansion and upgrading of these functions is very strong.
23. Other means are available for financing programs downtown, such as use of in-lieu fees and possible formation of a parking district to pay for needed parking improvements. These actions can be used selectively and when needed. Mainly the City needs to make a commitment that it now, after many years of neglect, wishes to focus its attention and resources on downtown until it once again becomes a healthy and prosperous commercial area. The potential is there; what is needed now is the commitment.



SECTION II

STREETSCAPE BUDGET

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Landscape Architect



STREETSCAPE BUDGET

1. Size of plant material:

Most cities require a minimum of 15 gallon trees for planting along streets. There are many reasons for this. Fifteen trees are of a size that is large enough to: a.) have an impact visually, b.) not be hurt as badly from vandalism, and c.) tall enough so branching does not interfere with pedestrians.

Although many species as five gallons trees do catch up—selecting or allowing five gallons trees is not a good idea especially for slower growing species

As to problems with root bound materials, there are reasons this happens and ways to avoid the problem. Root bound trees come from the nursery because they were kept in small pots too long. Fast growing species and oaks are prone to this. A good specification outlines acceptable plant materials and clearly states that root bound trees will be rejected by the inspecting landscape architect who has tree balls removed from the can (to observe root growth) on the site before planting occurs. Occasionally, a landscape architect will accept a tree in this condition if the root ball can be opened up—releasing wrapped or kinked roots—though this is rare.

Specifications for planting have become very sophisticated to include soils testing and proper amendments for backfill mixes as well as techniques for proper soil placement, mixing, and planting. Street tree holes are now 4' deep with drains, rock and aeration tubes, etc.

The city should be looking at these issues rather than denying the community a size tree that will look like something right away. Fifteen gallon trees should be used. Woodland's soils are no worse than the clays in Petaluma and Rohnert Park or the salts found in

Foster City where many successful 15 gallon street tree plantings can be seen.

2. Bike Racks (\$570-780 plus shipping and handling)

The selected bike rack for downtown Woodland offers a secure and safe alternative for bike parking. Made out of steel they can be colored to match antique light fixtures, bikes can be locked to rack with the front or rear wheel, bike rack is model E from Urban Accessories, pricing reflects 8-12 bike range.

3. Parking lots – costs = \$8.00 S.F.

Grading and drainage	1.50 S.F.
New AC paving	1.20 S.F.
New lighting	2.00 S.F.
Striping	0.05 S.F.
Signs	0.05 S.F.
Planting/irrigation	1.13 S.F.
Control gates	0.30 S.F.
Curbs	0.63 S.F.
Design fees	0.60 S.F.
Construction assistance	<u>0.20 S.F.</u>
	\$7.66 S.F.

plus contingencies \$8.00 S.F.

* does not include land cost, lease cost, etc.



4. Improvements to side streets (8' wide walk) \$18.00 S.F. or \$125.000 L.F.

New sidewalk	2.75 S.F.	
Remove old walk	3.00 S.F.	
Street trees 35' oc	4.00 S.F.	
New lighting 60' oc	4.57 S.F.	
Design	0.76 S.F.	
Construction assistance	0.20 S.F.	
	\$15.28 S.F. or	\$106.00 L.F.
plus contingency	\$18.00 S.F. or	\$125.00 L.F.

5. Improvements to sidewalks (7' and less) \$14.00 S.F. or \$100.00 L.F.

Remove old sidewalk	3.00 S.F.	
New sidewalk	2.75 S.F.	
New lighting	4.57 S.F.	
Design	0.76 S.F.	
Construction assistance	0.20 S.F.	
	\$11.28 S.F.	
plus contingency	\$14.00 S.F.	\$100.00 L.F.

6. Main street improvements \$180.00 L.F.

Remove old concrete for accents only	5.29 L.F.
New aggregate paving	4.95 L.F.
Historic marker	2.14 L.F.
Bulb out curb and gutter	2.40 L.F.
Benches (10 per 500 L.F.)	30.00 L.F.
Planter island every eighth stall)	20.00 L.F.
Bike racks (1 per 500 L.F.)	1.75 L.F.
Utilities and grading	0.80 L.F.
New repair	3.20 L.F.
New striping - street	3.05 L.F.

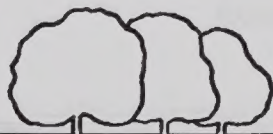
Planting/irrigation	48.00 L.F.
Design	42.00 L.F.
Construction assistance	<u>4.00 L.F.</u>
	\$167.58 L.F.

plus contingency \$180.00 L.F.

* Costs do not include survey work, conceptual planning, and are for one side of the street only.

** Costs are calculated at 1991 construction costs and should be inflated 5% per year.

*** Cost do not include city fees, permits, or city staff costs for a full time inspector, city review, planning and engineering reviews.



SECTION III

RECOMMENDED MODIFICATIONS TO THE SIGN ORDINANCE



RECOMMENDED MODIFICATIONS TO THE SIGN ORDINANCE

Add to Section 25-24-10 Definitions to include:

22a. Shingle Signs: A type of projecting sign under or marque regulate by size, design, materials and location.

Amend Section 25-24-20 as follows:

A.10.C. Add the following sentence:

If a business frontage is only on the alley then the full aggregate sign area permitted by the ordinance is allowed for that business. The signs shall be located on the alley frontage.

B.12 Building name signs shall be limited to 10 square feet in area and shall be allowed in each street fronting elevation.

Amend Section 25-24-20C to include the following:

A.3. Permanent window signs shall be limited to 20 percent of the ground floor frontage window area occupied by a given business. These signs will be counted as part of the building overall sign size.

C.6. Within the Downtown Specific Plan Area, shingle signs may be mounted at any height between 8 feet above grade (bottom clearance) and the second floor sill line or eaves line, whichever is lower. This section takes precedence over Table II for these types of signs. The top mounting height should correspond to a horizontal trim element on the facade whenever possible. They should be mounted perpendicular to the building. The size should not exceed four square feet. These signs will be counted as part of the

building's overall sign allowance.

Mounting brackets shall be submitted with the sign plan for approval by the City. These brackets shall be designed and made of materials to be compatible with the building.

D. Awning Signs

Awning sign shall not cover more than 50 percent of the end panel area nor more than 20 percent of the front (street facing) panel. These signs shall be counted as part of the building's overall sign allowance.

Amend Section 25-24-20F. Temporary Sign:

5. Add the following to the end of the sentence—"every 60 days."



**CENTRAL
AREA
SPECIFIC
PLAN**

Traffic, Circulation and Parking Study

FINAL REPORT

**Prepared for
CITY OF WOODLAND**

Prepared by



WILBUR SMITH ASSOCIATES

May 5, 1993

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I. INTRODUCTION

This report examines existing and future traffic, parking and rail conditions within the Woodland downtown area. The primary component of the downtown area is the grid-pattern street system defined by Main Street and East Street. Traffic volumes and levels of service were determined by surveys conducted on three weekdays. On-street and off-street parking within the study area was analyzed through occupancy counts and user surveys. Additional intersections along East Street and East Main Street were also studied to gain an understanding of the impact of local rail operations on downtown traffic flow.

Background

A review of relevant City documents regarding transportation and circulation in and around Downtown Woodland was performed as part of this effort. Relevant policies and other information from the 1988 City of Woodland *Policy Plan*, the *Street Master Plan* (1989), the *Zoning Ordinance*, and the 1983 *Downtown Parking and Circulation Study* was obtained and used in this report. Specifically, the past history of issues such as the Main Street one-way pair and Downtown Parking District were analyzed to understand both the past context and proposed future improvements. In this way, the Specific Plan can add to, rather than duplicate, past efforts in Woodland.

II. TRAFFIC

Study Area

This report concentrates on two study areas in the Downtown Woodland area. The first study area includes East Street from Beamer Street south to Gibson Road, and the Downtown Area bounded by Court Street to the north, West Street to the west, and Lincoln Avenue to the south. In addition, Main Street from East Street to Matmor Road is covered.

The second study area emerged out of focused attention on the parking and traffic impacts in Downtown Woodland from the Downtown Specific Plan. This study area is bounded by North Street, West Street, Lincoln Avenue on the south, and East Street on the east.

Existing Setting

Regional Circulation System - The City of Woodland is located approximately 20 miles to the north of Sacramento. Interstate 5 (I-5) is the main connector between the two cities. Average daily traffic volumes between Main Street and the SR-113 junction are approximately 20,000 vehicles.¹ Access ramps serving the downtown area are located on East Street and Main Street. Interstate 80, operating in an east-west direction to the south of Woodland, is another link between Woodland and the Bay Area and Sacramento. It is most directly accessed via SR-113. The SR-113/I-80 junction is approximately 11 miles south of Main Street.

State Route 113 (SR-113) connects Woodland with the City of Davis, approximately ten miles to the south. Within Woodland SR-113 was known as East Street. However, the state route designation is in the process of being removed from the street within the City. East Street

¹ Caltrans, 1990 Traffic Volumes on California State Highways

now begins just south of County Road 25A. SR-113 continues north on a bypass just to the east of East Street. The primary access ramps for SR-113 serving the downtown area are located on Main Street about a mile east of East Street. SR-113 operates with 12,800 vehicles daily north of Gibson Street and increases to 17,900 vehicles south of Main Street. North of Main Street SR-113 operates with 15,000 vehicles daily. South of Beamer Street SR-113 operates with 11,000 vehicles daily.²

Local Streets

- o **East Street** - East Street is a major north-south arterial within the City of Woodland. Until recently, it was also known as SR-113. The state designation has been removed and East Street now terminates to the south at County Road 25A. (As described above, at this point SR-113 continues parallel and to the east of East Street with access ramps at Main Street). East Street's function is now to serve primarily local traffic instead of local and regional traffic south of I-5.

East Street is two lanes in each direction with left-turn pockets at Beamer Street, Gum Street, Main Street and Gibson Street. The Southern Pacific tracks run parallel to East Street on its west side.

- o **Main Street** - Main Street is the major east-west arterial serving the downtown area. Main Street is two lanes in each direction between East Street and Third Street. Between Third Street and Walnut Street, Main Street is one lane in each direction with left-turn pockets provided at all locations, except at Fourth, Fifth, and Sixth Streets. A right-turn pocket is provided at the westbound approach of Third Street. East Main Street is two lanes in both directions. Union Pacific tracks, located on the north side of East Main Street, end east of East Street.
- o **Court Street** - Court Street is an arterial operating in an east-west direction. It serves several businesses, residential areas, and government offices. It is one lane in both directions between West Street and East Street with left-turn channels provided at the signalized intersections.

² ibid.

The following streets within the study area are classified as collectors in Woodland's General Plan (1988):

- | | |
|--------------------------------|-----------------|
| o College Street | o Third Street |
| o Matmor Road | o Beamer Street |
| o Lincoln Avenue | o Cross Street |
| o East Gum Avenue ³ | |

These streets connect arterials and provide access from local streets to arterials. These streets are generally one lane in each direction with left-turn channelization provided at some signalized intersections.

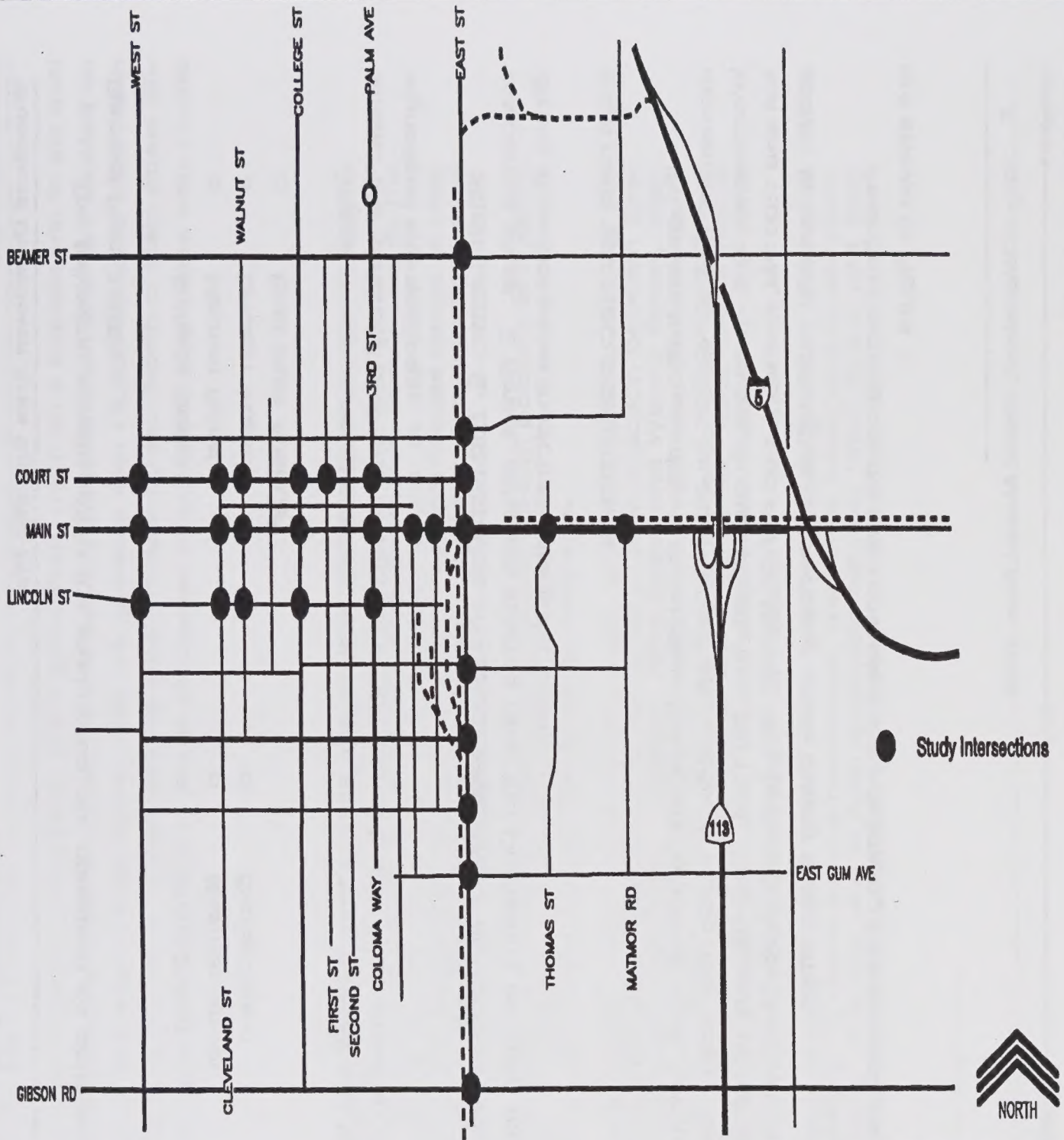
North, Lemen, E, Thomas, Oak and Pendegast Streets are local streets serving primarily residential areas. E Street, although located near the Contadina canning plant on East Main Street, does not serve truck traffic from the plant.

EXISTING TRAFFIC CONDITIONS

To assess traffic conditions throughout the downtown study area, new peak hour turning movement counts were collected at 29 intersections within the study area on Tuesday, Wednesday, and Thursday, August 20, 21, and 22, 1991. Counts were collected between 11:00 AM and 1:00 PM, and from 4:00 PM to 6:00 PM. These time periods were chosen because traffic activity is typically most active in downtown areas during these times.

Peak hour turning counts were collected at the following 29 intersections whose locations are shown in Figure 1.

³ City of Woodland, *Street Master Plan*, 1989



CENTRAL WOODBASEINTERS-9/11/91CRL



STUDY INTERSECTIONS

Woodland Downtown Area Specific Plan

- | | |
|------------------------------------|---|
| 1. East St./Beamer St. | 2. East St./Lemon St.-North St. |
| 3. West St./W. Court St.-Court St. | 4. Cleveland St./Court St. |
| 5. Walnut St./Court St. | 6. College St./Court St. |
| 7. First St./Court St. | 8. Third St./Court St. |
| 9. East St./Court St. | 10. West St./W. Main St.-Main St. |
| 11. Cleveland St./Main St. | 12. Walnut St./Main St. |
| 13. College St./Main St. | 14. Third St./Main St. |
| 15. Fifth St./Main St. | 16. Sixth St./Main St. |
| 17. East St./Main St. | 18. E St.-Thomas St./E. Main St. |
| 19. Matmor Rd./E. Main St. | 20. West St./W. Lincoln St.-Lincoln St. |
| 21. Cleveland St./Lincoln St. | 22. Walnut St./Lincoln St. |
| 23. College St./Lincoln St. | 24. Third St./Lincoln St. |
| 25. East St./Oak Ave. | 26. East St./Cross St. |
| 27. East St./Pendegast Ave. | 28. East St./Gibson Rd. |
| 29. East St./Gum Ave. | |

As the western leg of the Gibson Street/East Street intersection was closed for street widening during the August counts, new counts were collected at this intersection on Wednesday, December 18, 1991. As road construction may have impacted other intersections serving as detours, new counts were also taken at:

- o East St./Cross St.;
- o East St./Pendegast St.; and
- o East St./Gum St..

Turning movement counts were also collected at:

- o College St./Cross St.;
- o Third St./Cross St.; and
- o Third St./Beamer St.

Levels-of-service were calculated at each intersection for each peak hour.

Level-of-Service Concept

Traffic planners and engineers use the term "level-of-service (LOS)" to describe conditions associated with various levels of traffic volumes at a particular intersection. There are six levels of service with the letter designations "A"- "F". The letters represent progressively declining conditions with "A" indicating excellent maneuverability and stable speeds, and "F" indicating breakdown of flow, and unstable, erratic speeds. The traffic flow characteristics for the various levels-of-service are summarized in Figure 2.

For signalized intersections, the level-of-service is related to the volume-to-capacity ratio (V/C). To determine the V/C ratio, the total critical volumes (the sum of volumes of conflicting movements) is divided by the total intersection capacity. If the critical volume is equal to the intersection capacity, the V/C ratio is 1.00, and the level-of-service is on the borderline between LOS E and LOS F. A V/C ratio of 0.80 indicates a level-of-service between LOS C and LOS D. While LOS C represents stable flow with reduced mobilized speeds and moderate delays at intersections, LOS D is defined as a condition approaching unstable speeds with restricted maneuverability. At LOS D, traffic conditions have deteriorated to the point where, for example, drivers may experience long delays at intersections. LOS D is generally an acceptable level of congestion; LOS E and LOS F represent generally unacceptable conditions.

Analysis of unsignalized intersections does not utilize V/C ratios when determining LOS because the traffic flow is not controlled in the same manner as with signalized intersections. At unsignalized intersections, only the minor street approaches are controlled, either by STOP or YIELD signs. Vehicles leaving the minor street can be impeded by conflicting movements from the major street. Because there are no controls placed on the major street, the only movement subject to delays is the left-turn onto the minor street which is subject to the amount of opposing traffic on the major street. The amount of traffic making each movement at the minor street

The **CRITICAL MOVEMENT ANALYSIS METHODOLOGY**, which is described in the Transportation Research Board's Circular 212, defines Level of Service (LOS) for signalized intersections in terms of the ratio of critical movement traffic volumes to an estimate of maximum capacity for critical volume at an intersection. Critical movements at an intersection are calculated by determining the maximum traffic volumes for conflicting traffic movements (i.e. left-turns plus opposing through traffic) per single stream of traffic (by lane). Approximate ranges for average vehicle stop delay are provided by Circular 212 for descriptive purposes. However, the LOS for intersections are entirely determined by the ratio of critical movement volume to critical movement capacity (volume-to-capacity ratio = V/C) for the entire intersection. Six categories of LOS are defined, ranging from LOS 'A' with minor delays to LOS 'F' with delays averaging more than 40 seconds during the peak hour.

LOS 'A'

V/C Range..... 0.00 - 0.60
Average Stop Delay (seconds)..... 00.0 - 16.0

LOS 'B'

V/C Range..... 0.61 - 0.70
Average Stop Delay (seconds)..... 16.1 - 22.0

LOS 'C'

V/C Range..... 0.71 - 0.80
Average Stop Delay (seconds)..... 22.1 - 28.0

LOS 'D'

V/C Range..... 0.81 - 0.90
Average Stop Delay (seconds)..... 28.1 - 35.0

LOS 'E'

V/C Range..... 0.91 - 1.00
Average Stop Delay (seconds)..... 35.1 - 40.0

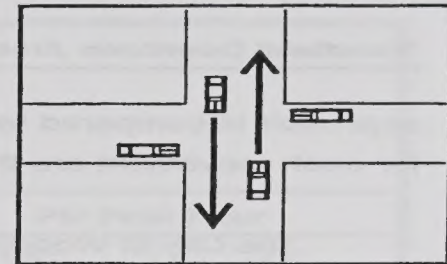
LOS 'F'

V/C Range ¹
-Measured..... 1.00 or less
-Forecast..... 1.01 or more
Average Stop Delay (seconds)..... 40.1 plus

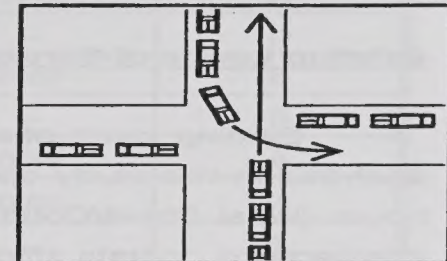
1. While forecasting demands can exceed maximum capacity, actual measured volumes theoretically cannot. Since traffic flow inefficiencies arise at capacity demand conditions, measured traffic volumes can decrease below maximum flow capacity and thereby calculated V/C ratios for LOS 'F' conditions can be substantially below $V/C = 1.00$.

LOS-212-11/11/91CRL

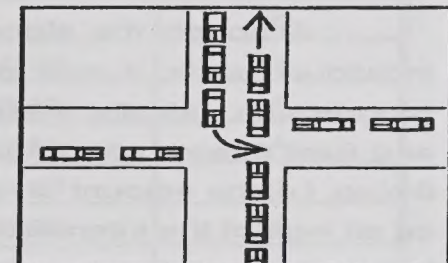
SOURCE: Transportation Research Board, "Planning Level Methodology-Signalized Intersection", Circular 212, Jan., 1980.



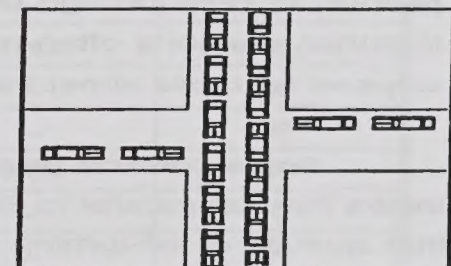
LOS 'A'



LOS 'C'



LOS 'D'



LOS 'F'



LEVEL OF SERVICE DIAGRAM

Woodland Downtown Area Specific Plan

approach is compared to each movement's capacity. The level of service and probable delay for each movement are then estimated.

The City of Woodland's General Plan calls for LOS C or better (V/C 0.80 or lower) as the acceptable intersection level of service threshold.

Existing Levels-of-Service

Existing levels-of-service are summarized in Table 1. All of the signalized intersections analyzed in this study operate primarily at LOS A or LOS B during the midday and PM peak hours (West Street/Court Street operates at LOS C during the midday peak hour). These intersections operate efficiently with little to moderate delays.

Although the signalized intersections within the study area operate efficiently on an individual basis, it was observed that on Main Street, vehicles do not platoon for efficient progression. Ideally, vehicles should be able to travel the length of Main Street between West and East Streets without stopping. Uninterrupted progression is dependent primarily on signal timing, i.e. the amount of red and green time for each intersection approach. The traffic volumes on all legs of the intersection are one factor in determining signal timing. The other component is the distance between traffic signals which determines the amount of time needed to get a platoon of cars through one signal and to the next. When the signals are placed too close together, platoons often reach the next signal before the minimum amount of green time has elapsed for cross street traffic, resulting in stop-and-go traffic progression.

Some conflicts were observed between traffic flows and trains on the Southern Pacific tracks that run parallel to East Street on its west side within Woodland. Particularly, it was noted that queues of left-turning vehicles accumulate that can be delayed significantly in completing the movement after the train has cleared the intersection. The delay is due both to the number

Table 1
(Page 1 of 2)
EXISTING LEVELS OF SERVICE
Woodland Downtown Area Specific Plan

Intersection	Midday Peak Hour		PM Peak Hour	
	V/C	LOS	V/C	LOS
East St./Beamer St.	0.43	A	0.48	A
East St./Lemen-North St. ⁽¹⁾	--	D	--	D
West St./Court St.	0.74	C	0.67	B
Cleveland St./Court St. ⁽¹⁾	--	A	--	B
Walnut St./Court St.	0.43	A	0.49	A
College St./Court St.	0.51	A	0.58	A
First St./Court St. ⁽¹⁾	--	A	--	B
Third St./Court St.	0.43	A	0.49	A
East St./Court St. ⁽¹⁾	--	E	--	E
West St./Main St.	0.54	A	0.58	A
Cleveland St./Main St.	0.38	A	0.38	A
Walnut St./Main St.	0.51	A	0.51	A
College St./Main St.	0.68	B	0.62	B
Third St./Main St.	0.59	A	0.60	A
Fifth St./Main St. ⁽¹⁾	--	D	--	D
Sixth St./Main St. ⁽¹⁾	--	D	--	D
East St./Main St.	0.54	A	0.65	B
E St./Thomas/Main St. ⁽¹⁾	--	D	--	E
Matmor Rd./Main St. ⁽¹⁾	--	E	--	E
West St./Lincoln St.	0.46	A	0.54	A
Cleveland St./Lincoln St. ⁽²⁾	--	C*	--	C*
Walnut St./Lincoln St. ⁽¹⁾	--	A	--	A
College St./Lincoln St. ⁽²⁾	--	C*	--	C*
Third St./Lincoln St. ⁽²⁾	--	C*	--	C*

Table 1
(Page 2 of 2)
EXISTING LEVELS OF SERVICE
Woodland Downtown Area Specific Plan

Intersection	Midday Peak Hour		PM Peak Hour	
	V/C	LOS	V/C	LOS
East St./Oak Ave. ⁽¹⁾	—	D	—	D
East St./Cross Street ⁽¹⁾	—	E	—	E
East St./Pendegast St. ⁽¹⁾	—	D	—	D
East St./Gum Ave.	0.39	A	0.40	A
East St./Gibson Rd.	0.54	A	0.58	A
Third St./Cross St.	--	C*	--	C*
College St./Cross St.	--	C*	--	C*
Third St./Beamer-Palm St.	--	C*	--	C*

(1) Unsignalized intersection: V/C not applicable; LOS represents worst movement at intersection.

(2) Four-way STOP-controlled intersection: V/C not applicable; LOS is approximate.

C* LOS C or better.

Wilbur Smith Associates; March 1992.

of vehicles queued and the wait for a left-turn arrow. The most extensive queues were noted at the westbound approach of Main Street at East Street.

Generally, after trains clear the tracks parallel to East Street, the vehicles that have accumulated at the unsignalized intersections, which was not observed to be a significant volume, are able to proceed through the intersection without significant delay.

At all of the unsignalized intersections, the minor street approaches are controlled by STOP signs. Three intersections are 4-way STOP controlled (Cleveland Street/Lincoln Street; College Street/Lincoln Street; and Third Street/Lincoln Street). Levels-of-service at several of the unsignalized intersections are at LOS D or LOS E for some movements (no movements operate at LOS F). These movements are primarily left-turns from one or both of the minor street approaches. The remaining movements operate acceptably at LOS A, LOS B, or LOS C.

Comparison to Past Studies

The recently collected PM peak hour traffic volumes were compared to volumes obtained in 1988.⁴ Between West and East Streets, PM peak hour volumes on Main Street have decreased by approximately 11 percent. PM peak hour volumes from West Street to east of College Street have also decreased by approximately 11 percent. The decrease in downtown traffic volumes is probably due to seasonal variation, as the 1991 counts were collected in August when many people are on vacation. The 1991 volumes have been adjusted to reflect peak seasonal conditions at the direction of the City.

On East Street, PM peak hour volumes slightly increased (6 percent) north of Beamer Street. Between Beamer Street and Main Street, volumes decreased approximately five percent. The largest change in PM peak hour volumes occurred on East Street south of Main Street where

⁴ City of Woodland, *Street Master Plan*, 1989

volumes decreased by 25 percent (volumes decreased by about seven percent south of Gum Avenue). This decrease may be due in part to seasonal variation, but is primarily the result of the removal of East Street as a State Route and its termination south of County Road 25A. Due to this change, which relocates direct access to SR-113 to East Main Street, volumes have increased on East Main by about eight percent from East Street to east of Matmor Road.

PM peak hour levels of service were compared to levels of service based on 1988⁵ data. The two studies had six intersections in common. Level-of-service remained the same at:

- o East Street/Beamer Street (LOS A);
- o College Street/Court Street (LOS A); and
- o East Street/Main Street (LOS B).

Level-of-service dropped at:

- o West Street/Court Street from LOS A (1988) to LOS B (1991); and
- o College Street/Main Street (LOS A to LOS B).

Level-of-service improved at West Street/Main Street (LOS B to LOS A), probably due to seasonal variation.

Mitigation Measures

None of the signalized intersections require mitigation as they are all operating above the LOS C threshold. The fact that some of the unsignalized movements are operating at LOS D or below suggest that signalization may improve operations. However, several of the minor street approaches (Oak Avenue, North Street/Lemen Avenue) at these intersections are not aligned, or

⁵ City of Woodland, *Street Master Plan*, 1989

"jog", requiring street realignment. In addition, the proximity of existing signals on the same street as either the minor or major street approaches of the intersection are also a concern as distance influences the effectiveness of platooning.

Signalization improvements should be considered in the context of future plans for the downtown area, including possible circulation changes and rail improvements.

FUTURE TRAFFIC CONDITIONS

This section analyzes future traffic conditions in downtown Woodland. The analysis is based on land-use assumptions regarding new development and growth in the downtown area. The traffic impacts of this development were analyzed using a three-step methodology, typical of traffic impact studies. The three steps - trip generation, trip distribution and trip assignment - result in a forecast of future turning movement volumes that are used to evaluate intersection levels-of-service and to assess future overall traffic operations.

Traffic impacts were assessed with both the existing circulation network and the proposed one-way couplet scheme.

Specific mitigations are also described for certain intersections that would be impacted by downtown development.

Forecasting Methodology

The traffic forecasts for the Woodland Downtown Area were generated using WSA's ASSIGN program. ASSIGN is a small area traffic impact analysis which has been described as a "bookkeeping" approach to the traffic assignment problem. The program takes a database of development activity, traffic counts, intersection geometries, distribution, and route (path)

assumptions and produces an output of intersection turning movements, volume-to-capacity (V/C) ratios, and other informative statistics about future traffic.

In addition to the trip generation, trip distribution, and trip assignment components described below, ASSIGN also employs the existing turning movement counts gathered previously and assumptions regarding intersection geometries.

Trip Generation - The potential PM peak hour vehicle trip end generation for future downtown development is based on the type and amount of each specified land use (see Table 2).

Assumptions about future land uses were made using the land use scenarios developed in the *Draft Downtown Specific Plan and Map*.⁶ These assumptions are summarized in the Future Parking Conditions chapter.

Vehicle trips generated by existing uses at each downtown opportunity site were counted when turning movement counts were collected in August and December. Accordingly, a portion of the trip generation potential of future development at these sites would be duplicated if no acknowledgment is made of the existing land use. Therefore, the trip generation potential of the proposed land use is the net total, indicating the difference between the existing and future land uses at each site.

The net new PM peak hour trip generation would be 1,449 inbound vehicle trips, 2,537 outbound vehicle trips, or a total of 3,986 vehicle trips.

⁶City of Woodland, *Draft Downtown Specific Plan and Map*, 1991

Table 2

TRIP GENERATION RATES PER 1,000 GSF
Woodland Downtown Area Specific Plan

Land Use	Daily	PM Peak Hour - Weekday		
		Inbound	Outbound	Total
Retail	51.29	2.43	2.44	4.87
Office	24.6	0.53	2.87	3.40
Restaurant	205.36	8.78	7.48	16.26
Cinema	19.04	1.31	0.92	2.23
Residential ⁽¹⁾	4.18	0.47	0.36	0.83
Hotel ⁽²⁾	8.70	0.41	0.35	0.76
Service	144.90	3.89	4.21	8.10
Heavy Commercial	27.40	0.37	0.90	1.27
Car Lot	27.40	0.89	0.38	1.27
Library	45.5	2.27	2.47	4.74
Jail	1.80	0.13	0.33	0.46
Sports/Community Center	7.39	1.23	1.57	2.80
Church	9.32	0.39	0.33	0.72
MXA	43.19	1.39	2.47	3.86
MXB1	71.34	2.17	3.55	5.72
MXB2	62.69	1.59	3.11	4.70
MXC	63.25	2.04	2.95	4.99
MXD	36.2	1.07	2.64	3.71
MXE	4.18	0.47	0.36	0.83

(1) Assumes average dwelling unit = 1,000 GSF

(2) Assumes average room (including public spaces) = 1,000 GSF

Wilbur Smith Associates; March 1992.

Trip Distribution - External zones were identified for traffic using the downtown street network. These zones include points located outside the City of Woodland and within the City but beyond the downtown study area. "Gates" were established on the perimeter of the study area which would provide access between the external zones and areas of growth downtown. Table 3 lists the external zones and the percentage of new traffic distributed to each.

About 76 percent of project generated traffic was assumed to travel to and from these zones. The remaining 24 percent was assumed to be traffic that would not leave the downtown study area.

The percentage of traffic to use each external zone was based on figures cited in the City of Woodland *Street Master Plan* and have been summarized in Table 3.⁷ Data obtained from a license plate survey was used to determine the breakdown between through traffic and traffic that would remain downtown.⁸

Table 3 TRIP DISTRIBUTION	
Origin/Destination	Percentage
Davis, I-80W, Sacramento	9%
Other Yolo County Locations	3
Within Woodland	64
within Downtown Woodland	24
Total	100%
Wilbur Smith Associates; March 1992.	

⁷ City of Woodland, *Street Master Plan*, 1989.

⁸ City of Woodland, *Downtown Parking and Circulation Study*, 1983.

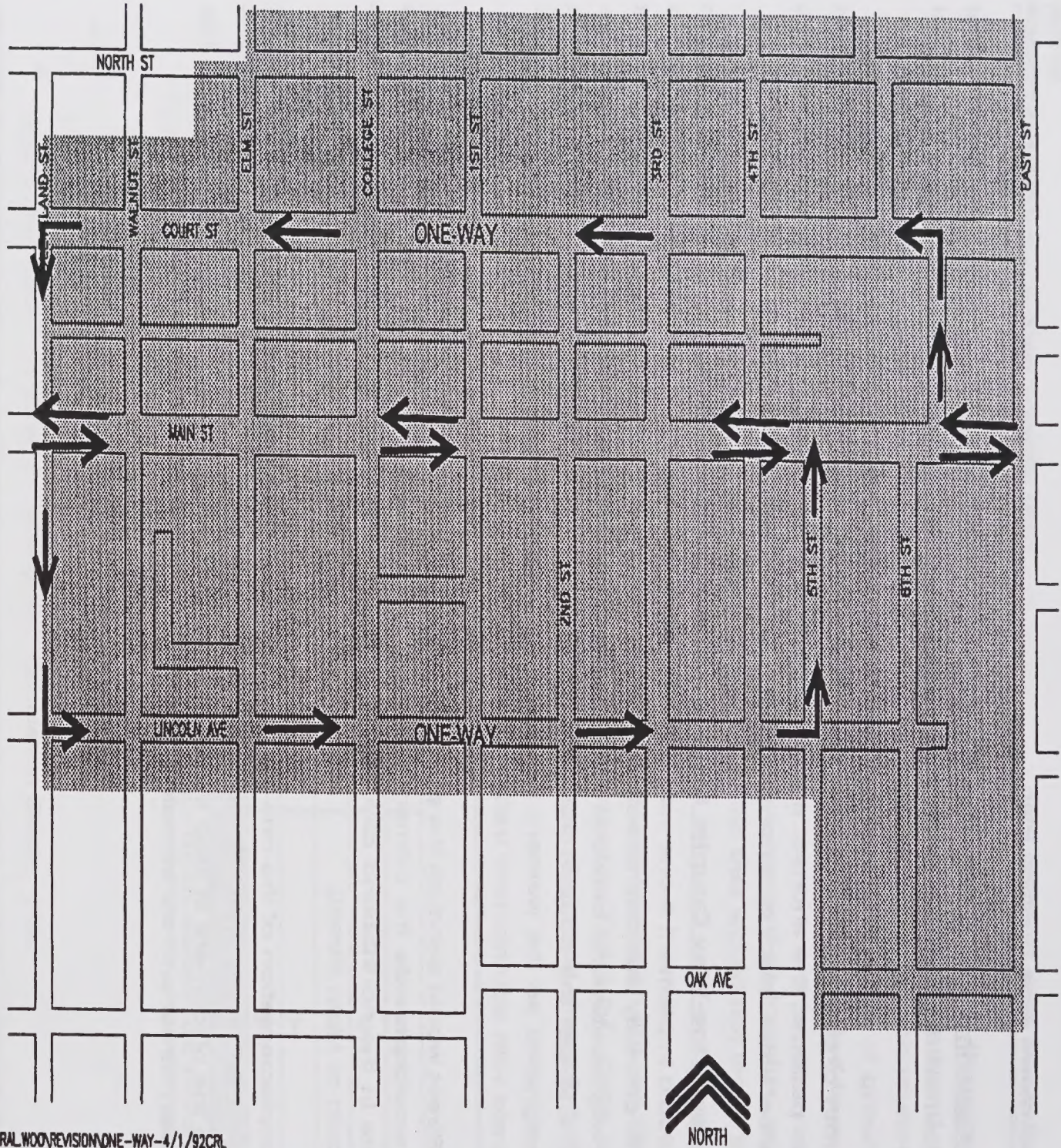
Trip Assignment - Project vehicle trips were assigned to the network for two different circulation alternatives: 1) the existing circulation system; and 2) the proposed one-way couplet scheme.

For both circulation alternatives, vehicle trips were assigned to the network based on existing traffic patterns, the shortest and most direct path prescribed by the circulation system, and the physical limits, such as one-way streets, of the circulation system.

Proposed One-Way Couplet Scheme - The proposed one-way couplet scheme, shown in Figure 3, would implement a one-way couplet using Lincoln and Court Streets. Lincoln Street would operate one-way eastbound between Cleveland and Fifth Streets, and Court Street would operate one-way westbound between Cleveland and Sixth Streets. Although vehicles would be able to enter and exit the couplet from any of the north-south cross streets, Cleveland Street would be designated as the western link between Lincoln and Court Streets and Main Street. It would operate with southbound traffic only.

Fifth Street would serve as the primary access off of Lincoln Street back onto Main Street. Sixth Street would provide the primary link from Main Street onto Court Street. Both streets would operate in the northbound direction only (Sixth Street was assumed to operate in both directions south of Main Street).

The implementation of the one-way couplet system would divert traffic off of Main Street within the downtown study area. Through traffic would be encouraged to use Court and Lincoln Streets due to the placement of stop signs on Main Street. These stop signs would reduce the capacity of Main Street and aid in maintaining lower traffic speeds.



CENTRAL WOOD REVISION ONE-WAY-4/1/92CRL



PROPOSED ONE-WAY COUPLET SCHEME

Woodland Downtown Area Specific Plan

Future Traffic Impacts

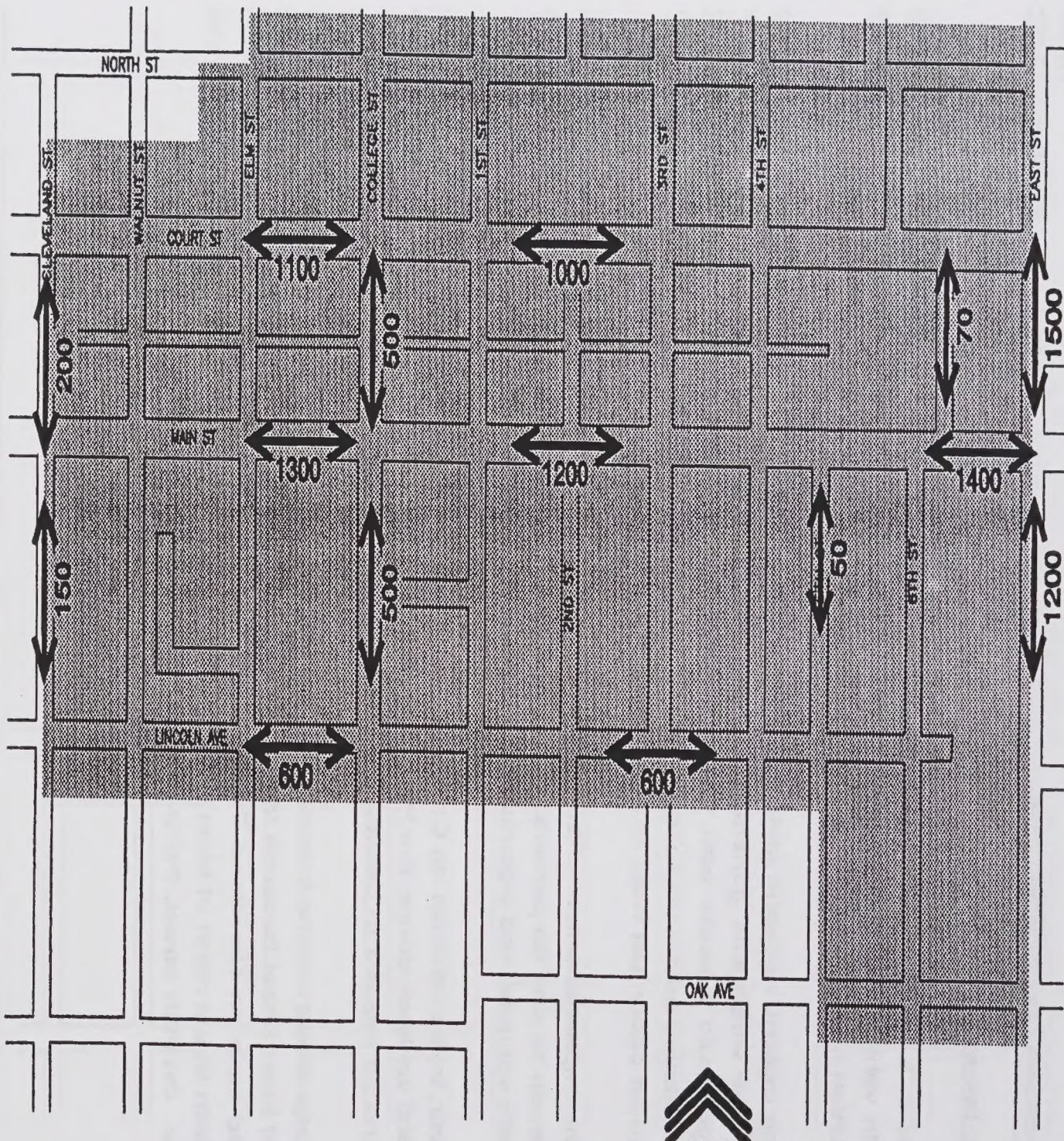
Figures 4, 5, and 6 show the PM peak hour link volumes for existing conditions and conditions with vehicle trips generated by the project. Link volumes are shown for both the existing circulation network and for the proposed one-way couplet.

With the existing network, Main Street would operate with 1,800 to 1,900 vehicles during the PM peak hour with traffic generated by the proposed land-use scheme. Both Court and Lincoln Streets would operate with lower traffic volumes, indicating that Main Street would operate as the primary east-west roadway through the downtown area. The highest volumes on Main Street would occur just west of East Street.

With the implementation of the one-way couplet, traffic volumes on Main Street would decrease between 55 and 60 percent. This substantial decrease would be due to the diversion of existing traffic volumes and potential project traffic to Lincoln and Court Streets.

However, traffic volumes on Court Street would increase by about 15 percent to between 1,400 and 1,500 vehicles during the PM peak hour. Traffic volumes on Lincoln would increase between 20 and 30 percent to between 1,100 and 1,200 vehicles during the PM peak hour.

Other significant volume increases would occur on Cleveland Street, Fifth Street and Sixth Street north of Main Street because these streets would link the couplet to Main Street. Traffic volumes would triple on Cleveland Street to 1,000 vehicles during the PM peak hour. Traffic volumes on Sixth Street north of Main Street would increase from 100 to 500 vehicles during the PM peak hour. On Fifth Street, PM peak hour volumes would double to 1,200.

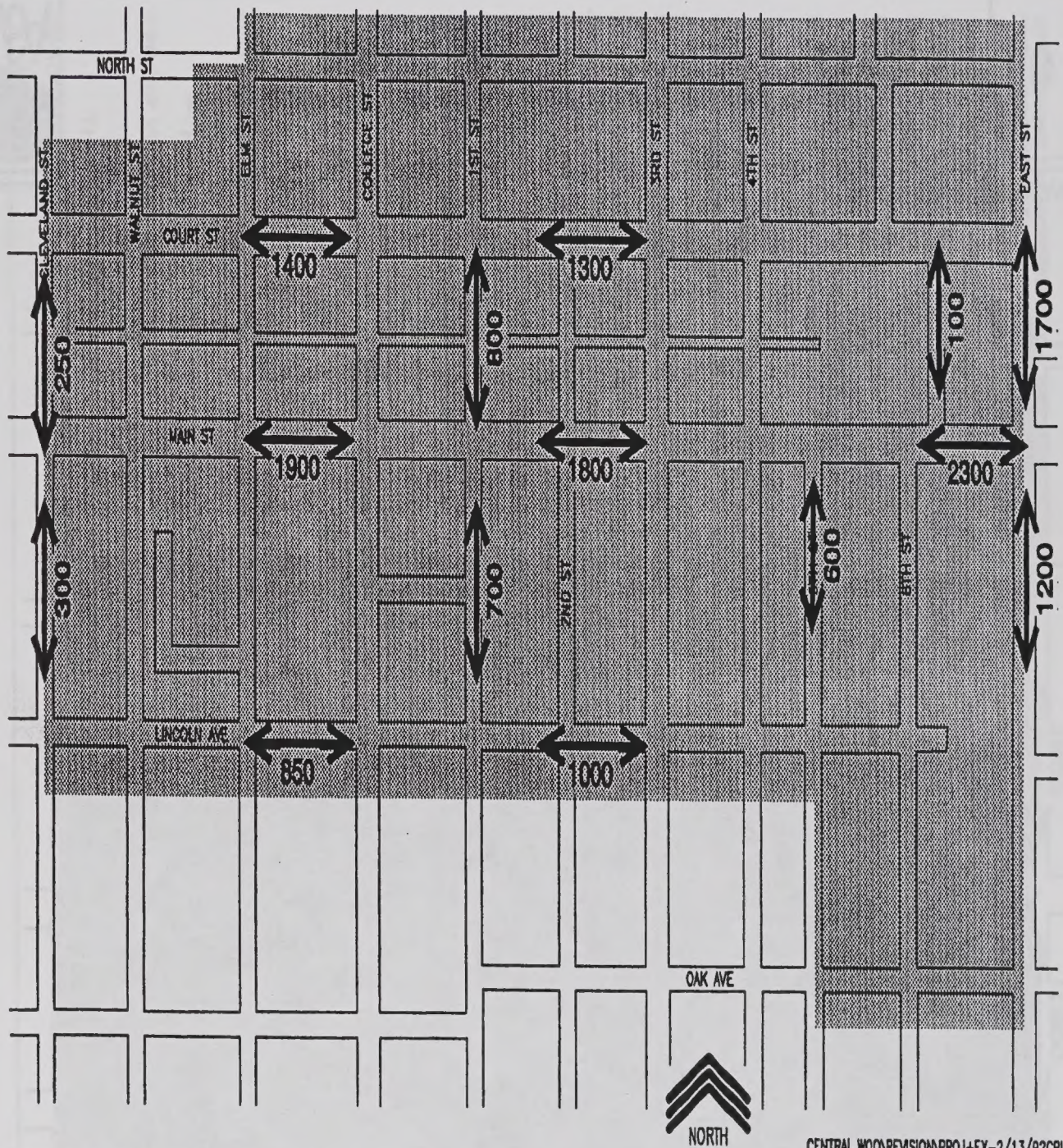


CENTRAL WOOD REVISION EX-LINK-2/13/92CRL



EXISTING LINK VOLUMES - PM PEAK HOUR

Woodland Downtown Area Specific Plan

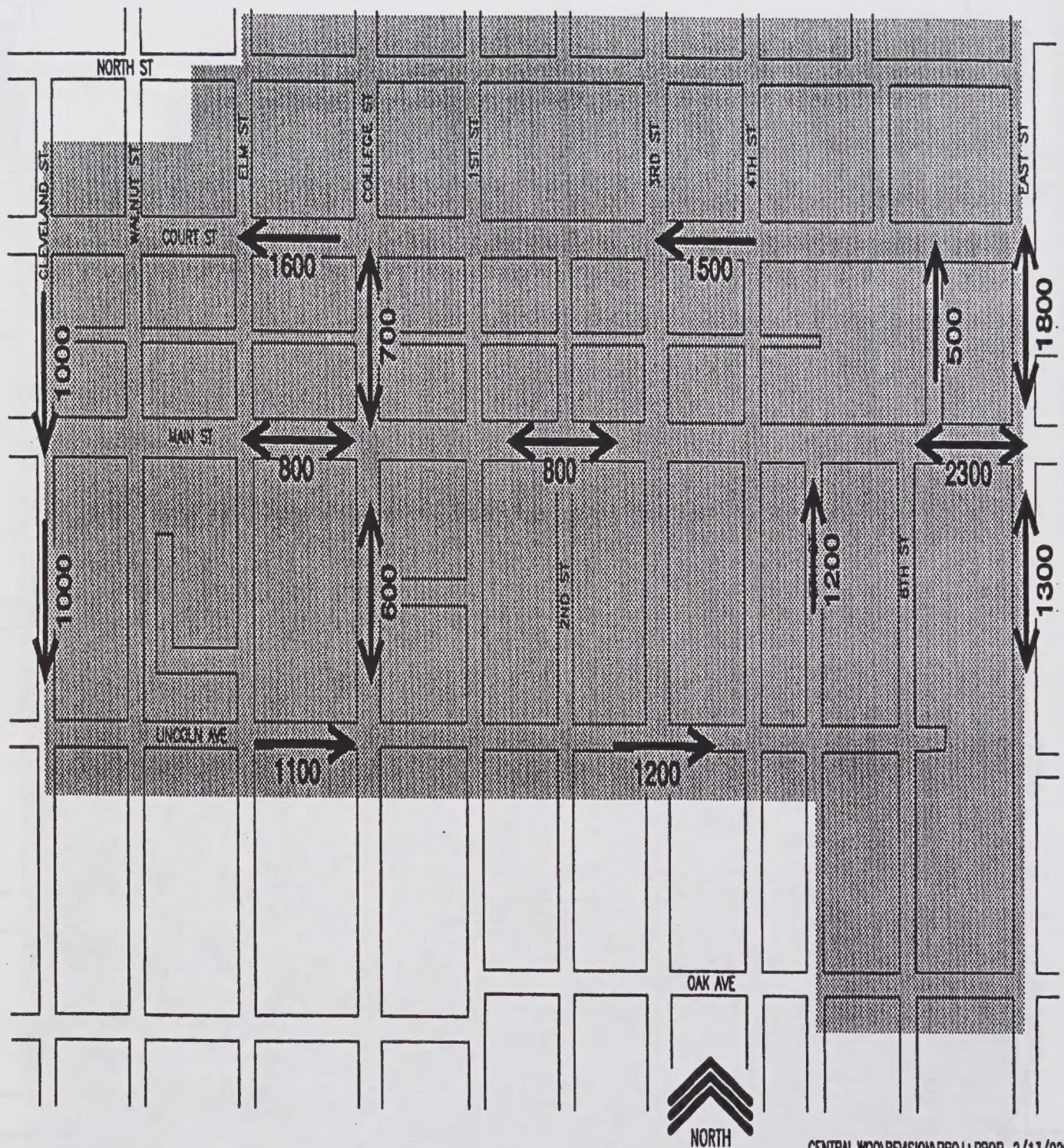


CENTRAL WOOD REVISION PROJ+EX-2/13/92CRL



PROJECT TRAFFIC + EXISTING CIRCULATION LINK VOLUMES - PM PEAK HOUR

Woodland Downtown Area Specific Plan



CENTRAL WOOD REVISION PROJ + PROP - 2/13/92CRL



PROJECT TRAFFIC + PROPOSED CIRCULATION LINK VOLUMES - PM PEAK HOUR

Woodland Downtown Area Specific Plan

Because of the significant increases in traffic volumes that would occur on several of the downtown study area streets with the one-way couplet, improvements may be necessary to provide adequate capacity. The level-of-service analysis described below aids in determining the improvements needed.

Future Levels-of-Service

With traffic volumes generated by the proposed downtown land use scheme, levels-of-service would change from existing conditions at most of the study intersections within the downtown area.

Levels-of-service were analyzed with both the existing circulation network and the proposed one-way couplet scheme. No improvements were assumed to be in place for the existing circulation network analysis. However, the proposed improvements were assumed to have been implemented for the one-way couplet street network. These intersection changes were necessary to properly coordinate the intersections to integrate the one-way couplet scheme with the rest of the street network.

Table 4 summarizes level-of-service for the downtown land use scheme with no change to the existing street network. Table 5 summarizes level-of-service for the downtown land use scheme and the proposed one-way couplet circulation network.

Proposed Improvements

This section cites mitigations to intersections that would improve intersection levels-of-service to acceptable levels if the existing street network were retained.

The improvements necessary to make the one-way couplet scheme work are also described.

Table 4

**FUTURE LEVELS-OF-SERVICE WITH EXISTING CIRCULATION
SIGNALIZED INTERSECTIONS
Woodland Downtown Area Specific Plan**

Intersection	PM Peak Hour	
	V/C	LOS
East Street/Beamer Street	0.57	A
West Street/Court Street	1.01	F
Walnut Street/Court Street	0.63	B
College Street/Court Street	0.86	D
Third Street/Court Street	0.70	B
West Street/Main Street	0.83	D
Cleveland Street/Main Street	0.55	A
Walnut Street/Main Street	0.76	C
College Street/Main Street	1.02	F
Third Street/Main Street	0.88	D
East Street/Main Street	0.91	E
West Street/Lincoln Street	0.78	C
East Street/Gum Avenue	0.65	B
East Street/Gibson Road	0.70	B

V/C = Volume-to-Capacity Ratio
LOS = Level-of-Service

Wilbur Smith Associates; March 1992.

Table 5		
FUTURE LEVELS-OF-SERVICE WITH ONE-WAY COUPLET SCHEME Woodland Downtown Area Specific Plan		
Intersection	PM Peak Hour	
	V/C	LOS*
West Street/Court Street	0.79	C
Cleveland Street/Court Street	0.67	B
Walnut Street/Court Street	0.68	B
College Street/Court Street	0.89	D
First Street/Court Street	0.63	B
Third Street/Court Street	0.78	C
East Street/Court Street	0.70	B
West Street/Main Street	0.79	C
Cleveland Street/Main Street	0.78	C
Walnut Street/Main Street ⁽¹⁾	--	D
College Street/Main Street ⁽¹⁾	--	F
Third Street/Main Street ⁽¹⁾	--	F
Fifth Street/Main Street ⁽¹⁾	--	F
Sixth Street/Main Street	0.69	B
East Street/Main Street	0.84	D
West Street/Lincoln Street	0.69	B
Cleveland Street/Lincoln Street	0.78	C
Walnut Street/Lincoln Street	0.49	A
College Street/Lincoln Street	0.73	C
Third Street/Lincoln Street	0.59	C
* Level-of-Service with improvements. (1) Unsignalized intersection: V/C not applicable; LOS represents worst movement at intersection.		
Wilbur Smith Associates; March 1992.		

Existing Circulation Mitigations - Level-of-service at six intersections would fall below the City's threshold of LOS C. These intersections would be mitigable to acceptable LOS with various improvements which are described below:

- o **West/Court Street** - Improvements include the addition of northbound and eastbound right-turn lanes on West and Court Streets, respectively, and the addition of one through lane on the westbound approach of Court Street. With this mitigation, this intersection would operate at LOS C and V/C 0.78.
- o **College/Court Street** - The addition of one exclusive right-turn lane on the westbound approach of Court Street would enable this intersection to operate at LOS C and V/C 0.76.
- o **West/Main Street** - With the addition of one westbound right-turn lane on Main Street, this intersection would operate at LOS C and V/C 0.72.
- o **College/Main Street** - This intersection would operate at LOS C and V/C 0.77 if the eastbound and westbound approaches were restriped to include two through lanes.
- o **Third/Main Street** - The restriping of the eastbound and westbound approaches to include two through lanes would enable this intersection to operate at LOS B and V/C 0.65.
- o **East/Main Street** - Various mitigation options for this intersection are discussed at length later in the report.

One-Way Couplet Scheme Improvements

These improvements consist primarily of restriping to alter intersections to fit the one-way couplet scheme. A typical improvement is to remove one approach of an intersection to facilitate one-way traffic flows. For instance, the eastbound intersection approaches on Court Street were eliminated as traffic would only be permitted to travel westbound.

Lincoln Street was analyzed as a one-way two-lane street which means parking lanes would not need to be removed. Two traffic lanes would be adequate to serve the needs of the proposed downtown plan.

Court Street was analyzed as a two-lane street. The capacity of two traffic lanes would be adequate to serve the needs of most of the intersections on Court Street within the study area. However, the College/Court Street intersection would operate at LOS D with two through lanes and LOS B with three through lanes. There is adequate room for a third travel lane on Court Street, but would require the removal of parking on one side.

It was also assumed that the intersections on Court and Lincoln Streets between Cleveland and Fifth Streets would be signalized. Signalization would aid in the platooning of vehicles to allow them to move faster and without interruption down both Court and Lincoln.

Improvements are suggested at the following intersections:

- o **West/Court Street** - Replacement of the exclusive left-turn lane with an exclusive right-turn lane would enable this intersection to operate at LOS C and V/C 0.79.
- o **Cleveland/Court Street** - This intersection would operate at LOS B and V/C 0.67 with separate right- and left-turn lanes on the eastbound approach.
- o **College/Court Street** - With only the addition of an exclusive right-turn lane on the southbound approach, this intersection would operate at LOS D and V/C 0.89. With the addition of a through lane on the westbound approach, it would operate at LOS B and V/C 0.69. The elimination of one parking lane on Court Street would be required for an additional travel lane.

The eastbound approach would be eliminated to accommodate westbound traffic only.

- o **Cleveland/Main Street** - Improvements at this intersection include the restriping of the eastbound approach to accommodate a right-turn lane and eliminate the left-turn lane; the addition of two right-turn lanes and one through lane on the southbound approach; and the addition of one left-turn lane on the westbound approach. This intersection would operate at LOS C and V/C 0.78.

The northbound approach would be eliminated to allow for southbound traffic only.

- o **Sixth/Main Street** - This intersection was assumed to be signalized under future conditions. With the addition of a westbound exclusive left-turn lane, it would operate at LOS B and V/C 0.69.

Two-way traffic operations would resume on Court and Lincoln Streets west of Cleveland Street. The placement of warning signs in advance of the intersection where the two-way traffic begins would alert drivers that they are leaving a one-way street and entering a two-way street. On the other approaches, signs prohibiting the improper turning movements can also be placed. The removal of some parking on the north side of Court Street, west of Cleveland Street, would create a short through lane needed to make the transition from two travel lanes of westbound traffic on Court Street, east of Cleveland Street, to one westbound travel lane west of Cleveland Street.

Traffic Operations with the One-Way Couplet - The level-of-service analysis described above portrays a focused look at intersection operations within the downtown study area. However, describing overall operations of the street network due to the impacts of implementing the one-way couplet is also important.

As noted above, traffic volumes would be reduced on Main Street by diverting through traffic and some downtown-oriented traffic to Lincoln and Court Streets. However, Main Street would still be perceived as the most direct route for some traffic patterns with limited effect on diverting all through traffic.

For the use of the model, traffic was reduced on Main Street to meet its theoretical LOS C capacity. However, traffic volumes may actually exceed this capacity, resulting in delays and possible queuing at intersections on Main Street.

The implementation of the parkway on the west side of the City that would connect I-5 with Gibson Road would provide an alternative for east-west travel without going through the downtown area. Therefore, through traffic volumes would decrease on Main Street due to the new parkway.

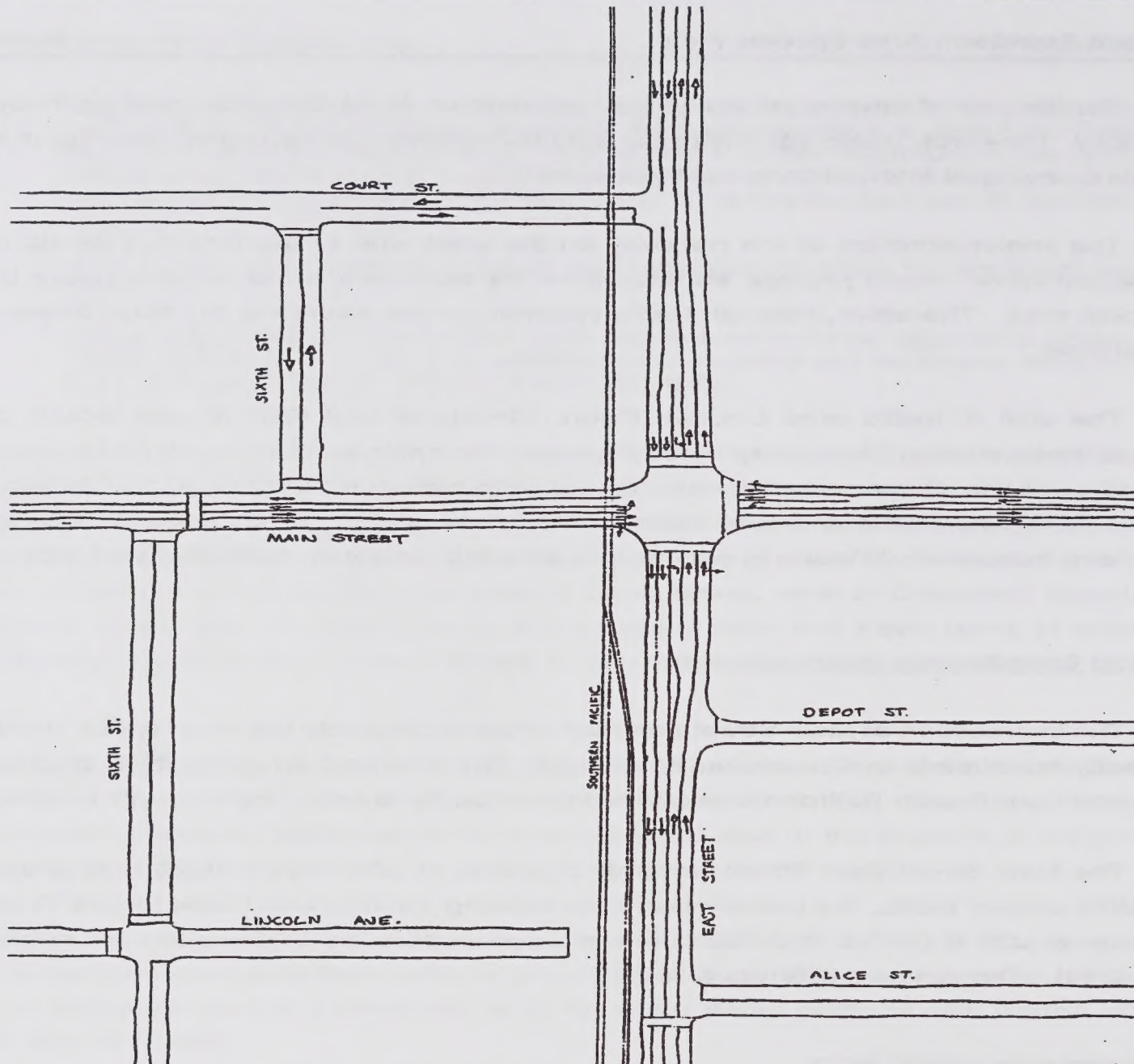
The shift of traffic onto Lincoln, Court, Cleveland and Fifth Streets would change the nature of these streets. Assuming that PM peak hour traffic would constitute ten percent of the daily traffic volume, these streets would operate with between 10,000 and 14,000 vehicles daily. At these levels, pedestrians would experience greater delays in crossing streets and drivers would have increased difficulty in exiting and entering backout driveways that face onto these streets.

Main and East Streets Improvements

The intersection of Main Street and East Street is probably the most critical facility in terms of capacity constraints in Downtown Woodland. The intersection capacity is also constrained by the Southern Pacific Railroad line and is intermittently blocked by through and local trains.⁹

The Main Street/East Street currently operates at LOS B (V/C 0.65) during the PM peak hour. With project traffic, the intersection in its existing configuration (see Figure 7) is projected to operate at LOS E (V/C 0.91). With the one-way couplet, the intersection will operate at LOS D (V/C 0.84). The primary difference is the:

⁹ See Task IV: Railroads.



EAST/MAIN STREET IMPROVEMENTS - EXISTING GEOMETRY
Woodland Downtown Area Specific Plan

1. Reduced number of southbound left-turn vehicles which have originated as eastbound traffic on Court Street and been displaced to Main Street and Lincoln Avenue; and
2. The higher usage of the Oak Street/East Street intersection by eastbound right-turning vehicles from Lincoln Avenue.

The recommended mitigations for the Main Street/East Street intersection are designed to accommodate the one-way couplet traffic, as this is a planned long-term improvement. Grade separated schemes were eliminated due to:

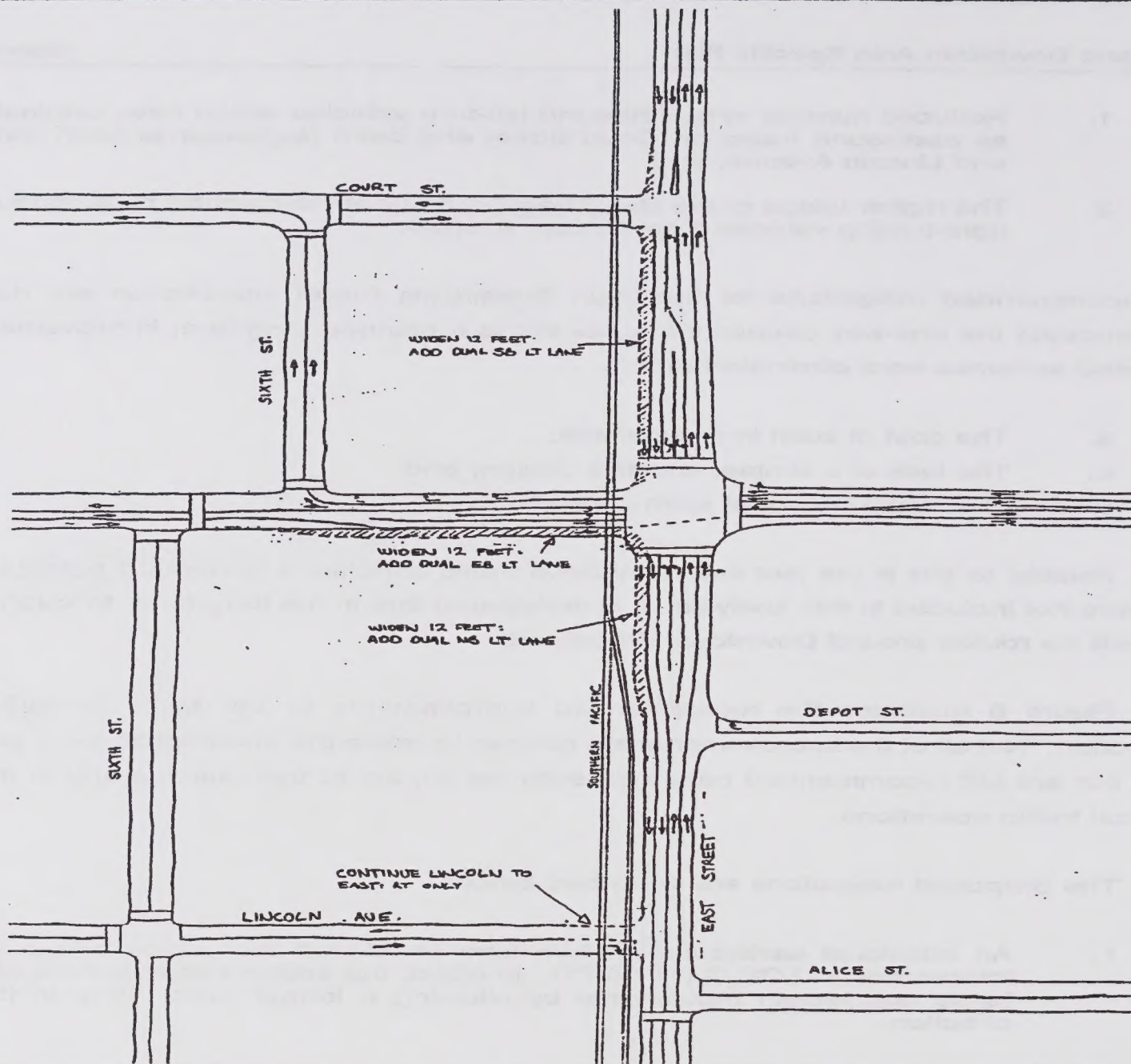
- a. The cost of such improvements;
- b. The lack of a simple, effective design; and
- c. The visual impact of such a structure.

Related to this is the fact that cumulative traffic conditions generated outside the study area were not included in this analysis. It is anticipated that in the long-term, through east-west traffic will be routed around Downtown Woodland.

Figure 8 illustrates the recommended improvements to the Main Street/East Street intersection. Not all of the improvements are needed to make the intersection work at LOS C or better, but are still recommended based on both the impact of train service and in the interest of logical traffic operations.

The proposed mitigations are described below:

1. An additional eastbound left-turn lane on Main Street alone brings the intersection to LOS C (V/C 0.77). In effect, the added capacity here also helps north-south movements by allowing a longer green time in that direction.



EAST/MAIN STREET IMPROVEMENTS-RECOMMENDED IMPROVEMENTS

Woodland Downtown Area Specific Plan

2. Widen East Street between Main and Court Streets, providing a northbound left-turn at Court Street and a dual southbound left-turn at Main Street. The purpose of this is to minimize northbound left-turn traffic at Court Street from interrupting through traffic, align the southbound lanes with the widened East Street geometry below Main Street, and increase southbound left-turn capacity.
3. Widen East Street from Main Street to Depot Street, add a dual northbound left-turn lane and extend the length of both left-turn pockets. The primary objective with this improvement is to increase northbound left-turn stacking capacity, especially when train activity has closed Main Street.
4. Extend Lincoln Avenue to East Street for right-turn in, right-turn out, operation. The objective of this improvement is to minimize the number of right-turning eastbound vehicles from using residential side streets to get to the Oak Street/East Street intersection. Left-turns should not be permitted for eastbound vehicles because:
 - (1) The high volumes of eastbound traffic would be forced to weave through traffic one block before turning right on Main Street; and
 - (2) A signal would be required that essentially duplicates the Main Street/East Street Intersection and adds to overall delay.

Mitigation #1 or Mitigations #2 and #3 will bring the intersection up to LOS C or better. As mentioned previously, all improvements are recommended based on general traffic operations and constraints by rail activity.

East/Oak Street - With the one-way couplet scheme some traffic would be directed to the East/Oak Street intersection. Signalization of this intersection with the additional traffic would aid the traffic flow on East Street, and turns in and out of Oak Street. However, this intersection would be difficult to signalize successfully. The east leg of the intersection is completely off-set from the west leg. The offset increases the amount of time a vehicle must spend in the intersection, making signal phasing and timing difficult to do efficiently.

Instead of signalization, designating the west leg of the East/Oak Street intersection to right-in/right-out movements only would eliminate the need for signalization. To channelize the allowable movements at the intersection, the west leg of Oak Street would require a traffic island (the east leg of the intersection would not operate with a high enough traffic volume to warrant the turn prohibition). Modifications to widen the Oak Street approach at East Street would be necessary to construct the Island. Signalization of East/Oak Street intersection may result in some queuing and back-up on East Street, most likely on the northbound left-turn movement.

The prohibition of left-turn movements at the East/Oak Street intersection would divert traffic to the East/Cross Street because it is the first intersection to the south of East/Oak Street. Peak hour signal warrants would be met at this intersection with the diverted traffic from the East/Oak intersection and with traffic generated by downtown development. The intersection is a T-intersection with no off-set and is sufficient distance from the nearest signalized intersections on East Street to maintain platooning of traffic flows.

E. Main/Court/Lincoln Connection

As an alternative to the East Main Street improvements and to ease congestion at the East/Main Street intersection, City staff has proposed an E. Main/Court/Lincoln Connection. The purpose of the E. Main/Court/Lincoln Connection would be to reduce the projected congestion and low levels of service at the East/Main intersection under implementation of the land use assumptions made in the Specific Plan study for the downtown area, and to improve operations at other intersections along East Street. Current problems experienced by drivers on East Street include delays caused by rail operations on the SP tracks parallel to East Street, and delays and excessive queuing due to high vehicular volumes experienced in completing left-turns at East/Main and at the southern approach of East/Court.

The first component of the Connection would be an extension of Court Street east to C Street. C Street is a north-south street which currently connects only to Armfield Avenue.

C Street would have to be extended about 300 feet to the south to form a new intersection with E. Main Street. In the second component, Lincoln Avenue would be extended east across East Street to connect with Alice Street, and eventually Johnston Street. Johnston Street connects directly to Main Street. The extension of C Street to E. Main Street should be aligned with Johnston Street. The connections to E. Main Street would be made in conjunction with the Court-Lincoln One-way Couplet Scheme as detailed earlier in this report.

If implemented, the E. Main/Court/Lincoln connection would affect traffic operations along East Street in the following ways:

1. The Connection would greatly reduce the westbound right-turn volume at East/Main. Instead, these vehicles would make the eastbound right-turn movement at C/Main. From there these vehicles would travel to East/Court. Some vehicles would continue east on Court Street and the remaining vehicles would continue north on East Street.
2. The Connection would also reduce the northbound right-turn volume at East/Main by diverting eastbound traffic originating on East Street south of Main Street to Alice and Johnston Streets.
3. Eastbound traffic that was diverted to Lincoln with the one-way couplet scheme to continue to E. Main Street would be redirected to the Lincoln/ Alice/Johnston connection if implemented. This diversion would reduce the eastbound through movement volume at East/Main.
4. Westbound traffic that was diverted to Court Street via Sixth Street from Main Street with the one-way couplet scheme would be redirected to the Court/C Street connection if implemented. This diversion would reduce the westbound through movement volume at East/Main Street.

Generally, the northbound and southbound through movement volumes at East/Main would not be reduced due to the Main/Lincoln/Court Connection because use of the Connection would be a significantly less direct route. Similarly, eastbound vehicles on Main Street turning onto East Street would not be diverted onto the Connection, nor would northbound left-turning vehicles at East/Main.

With the implementation of the Connection, other changes in traffic operations would also occur that include the creation of new intersections and geometry changes to existing intersections. These are described below:

East/Court – This intersection would change from three approaches to four approaches. The southbound left-turn movement would experience volumes of between 200 and 250 vehicles during the PM peak hour. Signalization was suggested for this intersection as part of the one-way couplet scheme.

With an exclusive southbound left-turn lane and an exclusive westbound right-turn lane, this intersection would operate at LOS D (V/C 0.88).

C/Johnston/E. Main – This would be a new intersection with four approaches. The traffic diverted from East/Main due to the new Connection would be redistributed to this intersection. C/Johnston/Main would experience large volumes at the northbound right-turn movement (500 to 600 vehicles during the PM peak hour); southbound left-turn movement (200-250 vehicles); and westbound right-turn movement (600-700 vehicles). Signalization would aid in keeping operations at this intersection at an acceptable level; it is, however, too close to the signalized East/Main intersection to induce efficient platooning and would affect the traffic flow on E. Main Street.

Under downtown project conditions, this intersection with signalization would operate at LOS C (V/C 0.80) with the following improvements: an exclusive southbound right-turn lane, dual northbound right-turn lanes, and an exclusive westbound right and left-turn lanes.

East/Lincoln/Alice -- This would also be a new intersection. The extension of Lincoln Street must be designed so as to align with the Alice Street approach. The largest movement at this intersection would be the eastbound through movement. This movement would be composed primarily of eastbound traffic that had been redistributed to Lincoln and then to Main Street via Sixth Street as part of the one-way couplet scheme. The implementation of the Connection would keep this traffic on Lincoln Street until Johnston Street directs it to E. Main Street.

This intersection would operate at LOS B (V/C 0.67) if an exclusive left-turn lane was provided for the westbound approach.

Alice and Johnston Streets, which serve residential neighborhoods, would experience increased traffic volumes. As a result, some geometric improvements may be necessary at the Alice/Johnston intersection.

East/Main – This intersection would operate at LOS C (V/C 0.80) under downtown project conditions during the PM peak hour if the E. Main/Court/Lincoln Connection were implemented.

The E. Main Street connections would be costly to implement as it would require the purchase of additional right-of-way, particularly to extend Court Street to C Street. This extension may also involve the condemnation of some existing structures. In addition, the C Street extension would cross Union Pacific rail lines which are still in use, opening up the potential for delays and queuing on E. Main Street.

The E. Main/Court/Lincoln Connection would divert about 14 percent of the total critical volume at East/Main to the new intersection of C/Johnson/E. Main. In turn this traffic would be redirected to East/Court which would gain a fourth approach with the Connection, and East/Lincoln/Alice. This would be another new intersection, requiring the extension of Lincoln across East Street to Alice Street. The Connection would not dissipate the large volumes of traffic that under downtown project conditions are expected to experience delays at East/Main and other locations along East Street. Instead, the redistributed traffic would be concentrated on specific movements at a few intersections, particularly C/Johnston/E. Main, East/Court, and East/Lincoln/Alice.

Conclusions

For the proposed downtown land-use scheme, both the existing street network and the proposed one-way couplet scheme would have adequate capacity provided certain intersection improvements are implemented.

The one-way traffic scheme would succeed in diverting most through traffic off of Main Street. However, traffic volumes would probably exceed the theoretical LOS C capacity for stop-sign controlled intersections, resulting in vehicular queues and delays. Retention of the existing signals with or without altered phasing would increase capacity but may result in an increase in

speeds on Main Street. The proposed parkway, west of downtown Woodland, connecting I-5 and Gibson Road, would also divert through traffic from the downtown area.

The one-way couplet would also increase traffic volumes on Court and Lincoln Streets resulting in increased delays for pedestrian crossings and making backing out of residential driveways more difficult. Coordinated signals would result in heavy platooning which would somewhat mitigate delays in driveway back-outs.

To improve problematic operations on East Street due to delay and queuing difficulties, particularly at the East/Main Street intersection, several low-cost improvements were developed. These mitigations increase capacity at the East/Main Street intersection (in part, to lessen the impacts of rail activity on traffic operations), and minimize interruptions of through traffic by northbound left-turn traffic at East/Court Street. The improvements would require a minimum of additional right-of-way acquisition.

The E. Main/Court/Lincoln Connection was also developed to ease congestion at the east/Main Street intersection. Although operations would improve at this intersection, the Connection does not address delays due to train activity on the Southern Pacific tracks, nor the potential for interference with activity on the Union Pacific tracks due to the connection of Court intersection, would divert large volumes of traffic through a residential neighborhood on Alice and Johnston Streets, and would require significant and costly acquisition of right-of-way.

III. PARKING

EXISTING CONDITIONS

Existing parking conditions were studied for a thirty-six (36) block area of Downtown Woodland, bounded by North Street on the north, East Street on the east, Lincoln Avenue on the south, and West Street on the west. In order to be consistent with the Downtown Specific Plan, a smaller study area (bounded by Cleveland on the west) was used in this analysis.

The existing parking supply in Downtown Woodland consists of restricted (2 hour, 30 minute) and unrestricted on-street parking, public off-street parking, and private off-street parking. Virtually all off-street parking was located on side streets leading from Main Street.

Parking facilities in Downtown Woodland are used by several user groups. Employees, including government workers at City Hall, the County Center, the Post Office, and Daily Democrat offices occupy much of the weekday parking north of Main Street. Other employee parking is related to the commercial businesses on Main Street. The main characteristic of this group is their desire for close-in parking, which they often achieve because of their early arrival times.

Transient, or customer, parkers fall into two main groups. The first group is short term (30 minute or less) customers stopping to pick up convenience items at one business. This group generally seeks to park directly in front of their destination. The second group, destination customers, have made Downtown Woodland their prime destination and plan to stop at more than one business. Convenient parking, although important to this group, may be located in well lit, easy to find facilities within a block of their prime destination.

The City of Woodland Zoning Code exempts parking requirements for those parcels located within Parking District No. 1. This district, located within the study area, was created so that public lots could serve businesses in an efficient manner rather than force multiple small lots. The Off-Street Parking Requirements (Article 23) for the rest of the study area are relatively typical in terms of spaces required and design standards. It should be noted that in calculating parking demand in the next phase, based on land use, both the City requirements and the Urban Land Institute Shared Use index will be used to show the differential between the two formulas.

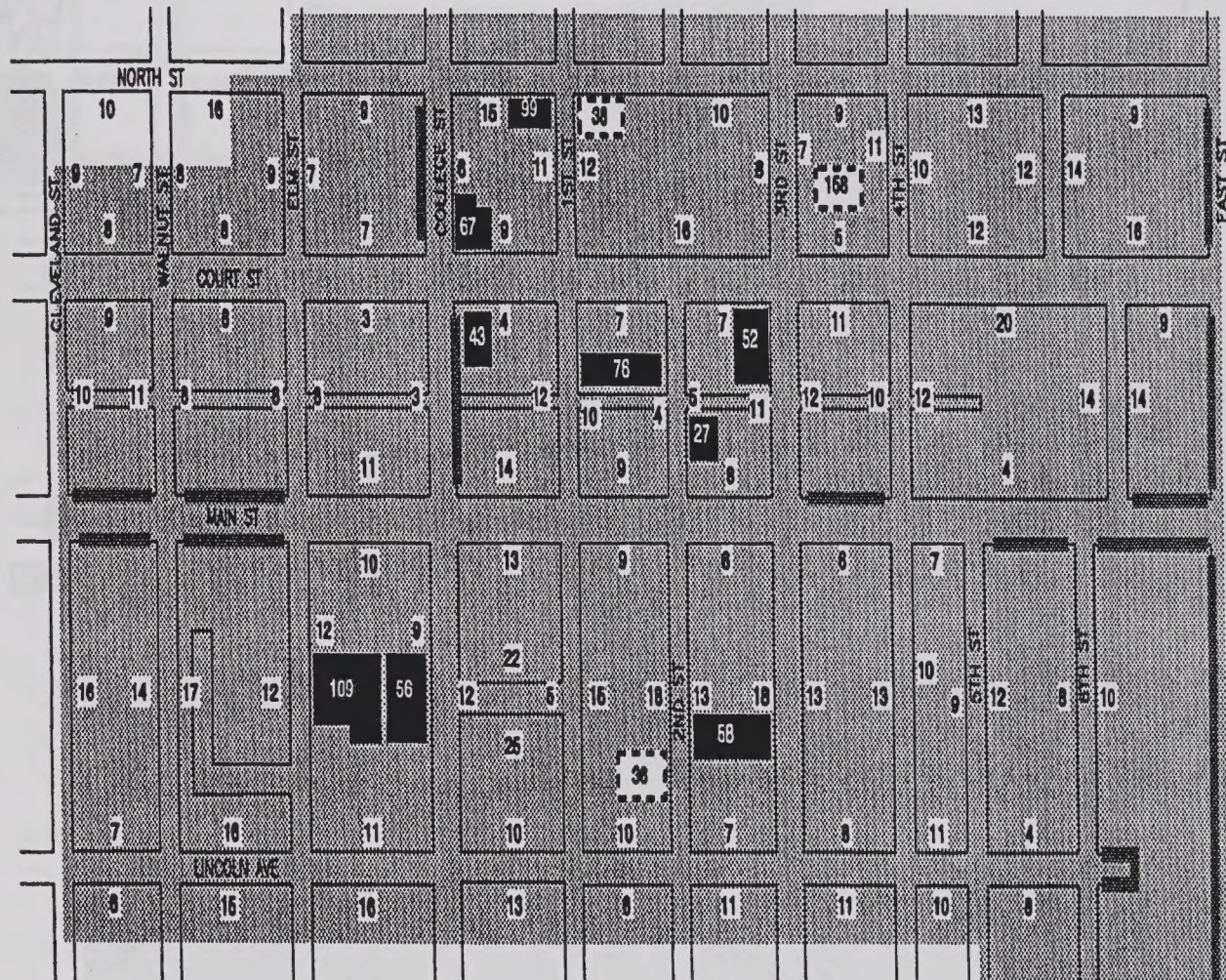
Existing Parking Conditions

A total of approximately 4,268 on-street and public/private off-street spaces in Downtown Woodland were inventoried within the study area defined by Court, Cleveland, Lincoln, and East Streets. Of this figure, 1,088 (25 percent) were on-street spaces, 2,361 (55 percent) were private off-street (based on the 1990 PWD report), and 819 (20 percent) were off-street spaces in twelve (12) public lots. Figure 9 illustrates the distribution of publicly-controlled parking in the study area.

Average occupancy and turnover counts were conducted on a weekday (Tuesday, August 20) and a weekend (Saturday, August 10) in all on-street and public off-street locations. Peak weekend occupancy (see Figure 10) was 32 percent (605 vehicles) between 12 noon and 1:00 PM, with on-street occupancy peaking at 34 percent and public off-street occupancy at 29 percent.

Peak weekday occupancy was 56 percent (1,063 vehicles), between 11:00 AM and 12 noon (see Figure 11). On-street occupancy peaked at 46 percent, while public off-street occupancy reached 69 percent.

As can be seen from the two figures, localized parking areas within the study area were full during both survey periods. For example, on the weekend on-street parking on the south



-  Study Area
-  Number of Parking Spaces - Public Lots
-  Number of Parking Spaces - Permit Lots
-  Number of Parking Spaces - On-Street
-  No Parking

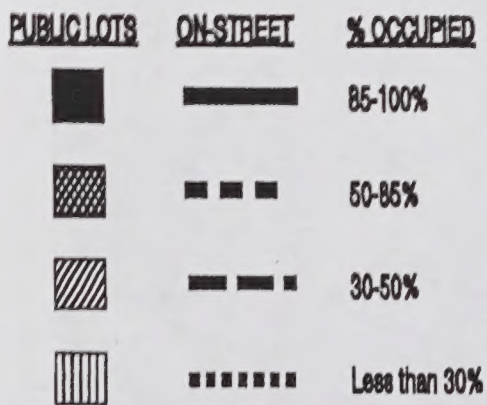
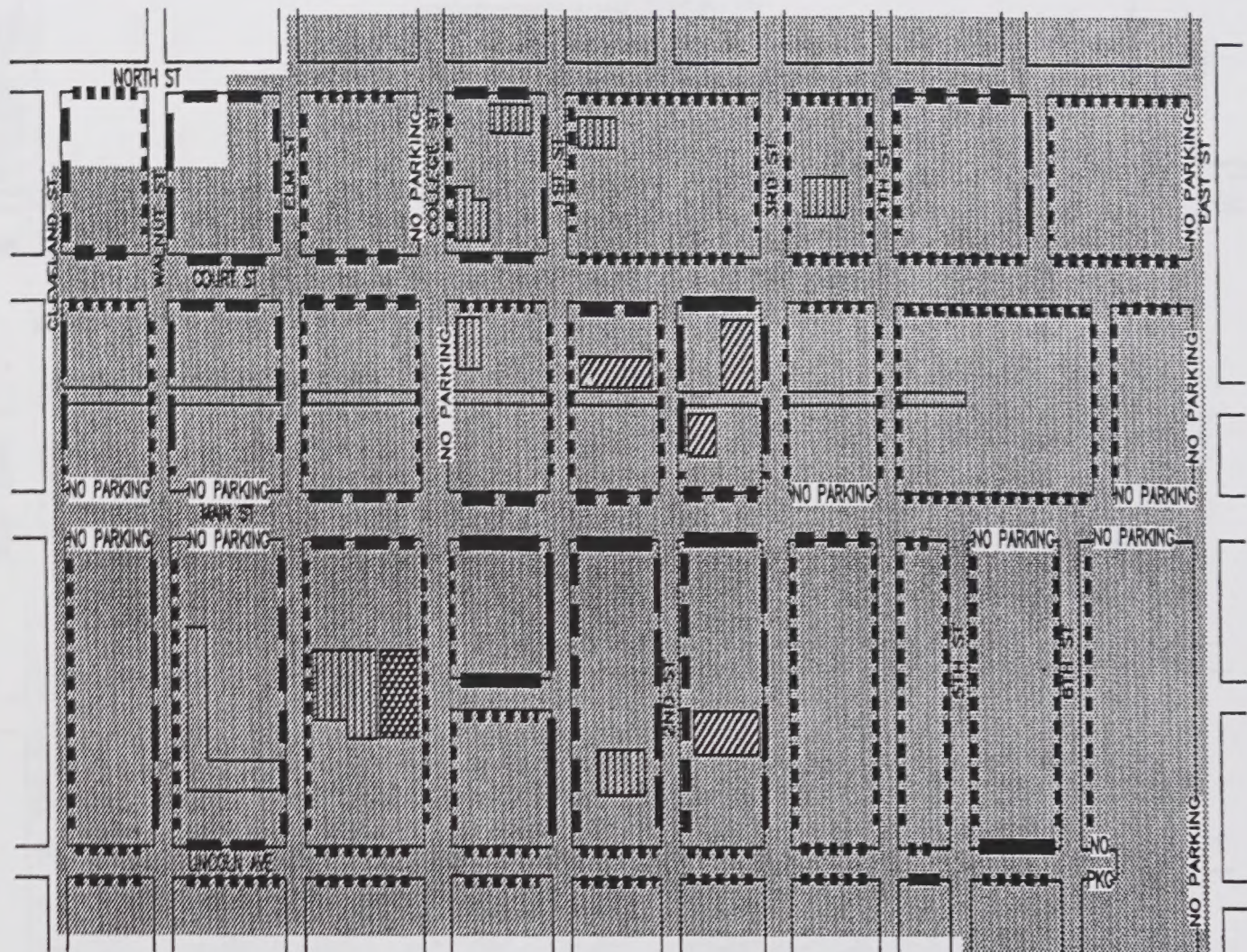


CENTRAL WOOD REVISION INV-2/13/92CRL



PARKING INVENTORY - ON STREET AND PUBLIC LOTS

Woodland Downtown Area Specific Plan

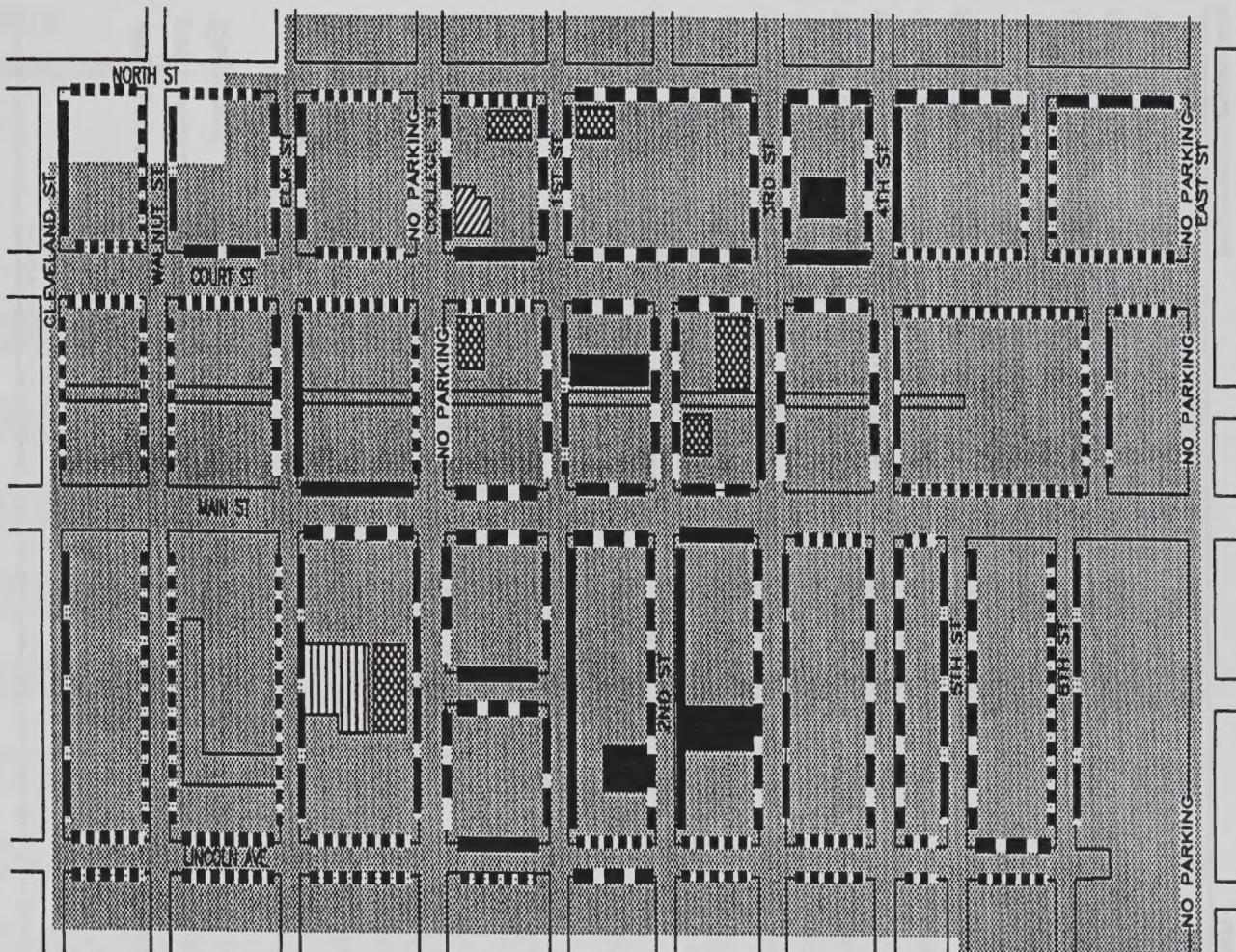


CENTRAL WOOD REVISION WEND-2/13/92CRL



WEEKEND PARKING OCCUPANCY

Woodland Downtown Area Specific Plan



<u>PUBLIC LOTS</u>	<u>ON-STREET</u>	<u>% OCCUPIED</u>
		85-100%
		50-85%
		30-50%
		Less than 30%



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WEEKDAY PARKING OCCUPANCY
Woodland Downtown Area Specific Plan

side of Main Street between 1st and 3rd Streets was between 85 and 100 percent occupied. During the weekday, public off-street lots in the vicinity of City Hall and the County Center were in excess of 80 percent full. In contrast, much of the adjacent on-street parking was less than 50 percent full due to two-hour restrictions.

The *Downtown Parking & Circulation Study* conducted by Omni Means in 1983 described parking demand as "moderate" and recommended easing some of the parking restrictions then in effect (including parking meters). Peak parking occupancy at that time was 50 percent at 11:30 AM. This is relevant in that it indicates that while parking demand has grown in the past eight years, overall there remains a substantial pool of unused parking in Downtown Woodland. It also points to the fact that localized shortages contribute to the perception of parking problems in Woodland. This is backed up by responses at that time from users who indicated they walked between 140 and 200 feet (on average) from their car to their destination, versus a national average of 240 feet to 400 feet. In other words, a parking "problem" in one city is largely the result of local perceptions of acceptable levels of convenience.

Existing Parking Demand

Parking demand differs from parking occupancy in that demand refers to the unconstrained number of vehicles wishing to park should there be unlimited, convenient, and free parking. Those people who do not drive because of these factors, or who park outside of the study area, reflect occupancy. The difference between demand and occupancy in Woodland is relatively small because parking is generally available, convenient and free for most parkers.

Peak parking demand in Downtown Woodland was calculated using industry parking generation rates¹ and land use data derived from the "City of Woodland Downtown Commercial Space Inventory," and the Specific Plan Land Use Map (see Table 6). During the peak weekday

¹ Institute of Transportation Engineers - ITE, Urban Land Institute - ULI.

DOWNTOWN WOODLAND LAND USE MODEL

TABLE 6

EXISTING CONDITIONS

	DUe								HEAVY		SPORTS			
	RETAIL	OFFICE	RESTAURANT	CINEMA	RESIDENTIAL	HOTEL	SERVICE	VACANT	COMMERCIAL	LOT	LIBRARY	JAIL	CLUB	CHURCH
1	8,812	4,400			11			2,180	8,815	40,320				
2	1,600	1,600		11,650	22				25,175	38,400				
3	16,955	5,483	5,196		11		11,923	10,419	7,890	10,750			7,000	
4	29,525	34,200	11,125		2		22,440	17,517					4,000	3,000
5	25,555	16,184	1,787		1		2,662	12,511	9,300					
6	24,854	14,881	3,872		8		4,424	7,750	2,850					15,000
7	16,875		5,675		12									
8	17,013		1,424		8			3,943						
9					0									
10					0									
11					0									
12					0									
13		30,535			8		1,175							
14	6,160	12,124			22		900		22,200	56,400				5,000
15	11,500	13,210	12,800		1			10,070	16,200					
16	21,290	54,370	11,050		0			4,600						
17	7,990	55,081	10,835	6,000	0		1,310	28,320						
18		11,216			0			1,200	24,330	22,800				
19	26,054	5,090			8		5,190	3,054		16,560				
20					3				2,250					
21	5,360	1,110			4		1,750	32,000						
22		3,537			0						14,000			
23		83,087			0		6,800	1,817						10,000
24	1,148	3,805			0		1,000					30,000		
25		4,768	6,480		20			7,750						
26	7,000				18				13150					
BLOCK	RETAIL	OFFICE	RESTAURANT	CINEMA	RESIDENTIAL	HOTEL	SERVICE	VACANT	COMMERCIAL	LOT	LIBRARY	JAIL	SPORTS CLUB	CHURCH
TOTAL	226,391	355,039	70,184	17,650	157	0	58,374	144,111	131,980	185,230	14,000	90,000	11,000	33,000

period (1:00 PM to 2:00 PM), 2,880 vehicles are estimated to be parked in the study area, representing approximately 67 percent average occupancy. If a practical capacity factor of 95 percent is used for the parking supply, this occupancy figure is 71 percent.

The parking demand figure was based on existing land uses including over 144,000 sq. ft. of vacant space in Downtown Woodland (see Table 7). The generation rates were also factored by 10 percent for retail and service uses to reflect a generally lower customer volume from the data sample used by ITE and ULI. Restaurant demand was factored by almost 80 percent to reflect the fact that at 1:00 PM on a weekday most restaurant patrons in Downtown Woodland are nearby employees who have already been counted in the office or other land use figures.

Of the 2,880 vehicles parked in Downtown Woodland at 1:00 PM on a weekday, approximately one third are office-related (960 vehicles), 27 percent are retail-related (775 vehicles), 10 percent are restaurant-related (295 vehicles), and the rest split among residential, service, heavy commercial, and special land uses such as churches and clubs.

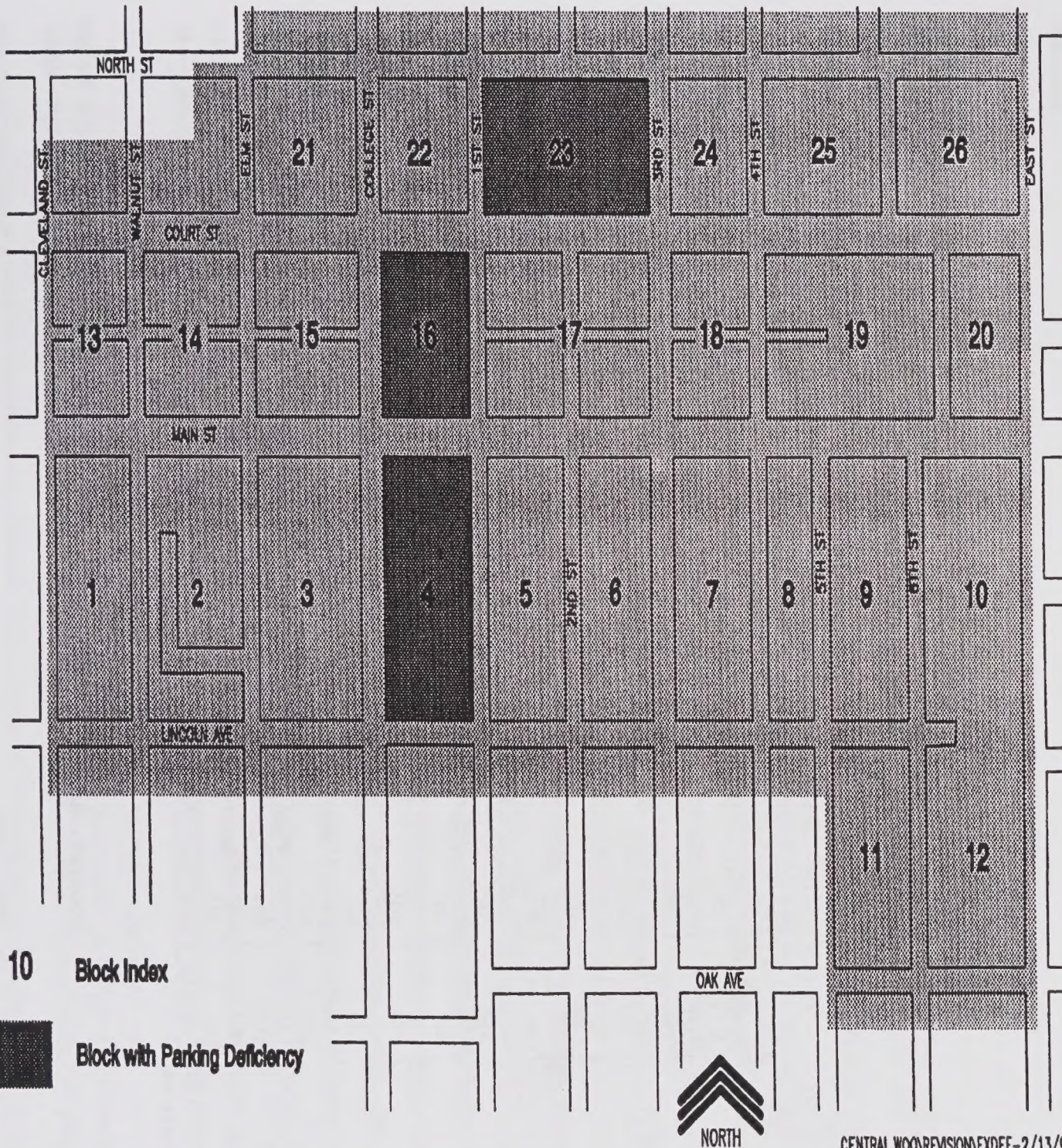
Three blocks have a noticeable deficiency of parking at 1:00 PM on a weekday as seen in Figure 12. The two "core" blocks bounded by College, Lincoln, First, and Court Streets have a combined deficiency of over 320 spaces. The block containing the County Administrative and Court buildings has a shortfall of over 130 spaces. Aside from these areas, most blocks appear to be close to equilibrium or have a surplus of parking.

Impact of Vacancy

The impact of the existing vacant space in Downtown Woodland (over 140,000 sq. ft.) on short term parking demand is shown in Table 8. Should the occupancy rate of office, retail, and service uses rebound up to 95 percent of available space, peak parking demand would increase from 2,870 vehicles to 3,200 vehicles. While the study area as a whole would have an average

TABLE 7
EXISTING PARKING DEMAND, SUPPLY AND SURPLUS/SHORTFALL
WEEKDAYS - 1PM

BLOCK	DEMAND	PARKING SUPPLY			TOTAL	SURPLUS/ SHORTFALL
		ON-STREET	PUB OFF-STR	PRI OFF-STR		
1	95	37	0	155	192	97
2	129	51	0	241	292	163
3	182	41	165	107	313	131
4	333	87	0	80	167	(166)
5	161	52	36	143	231	70
6	172	44	58	99	201	29
7	89	40	0	91	131	42
8	69	37	0	55	92	23
9	0	24	0	102	126	126
10	0	10	0	24	34	34
11	0	40	0	28	68	68
12	0	28	0	15	43	43
13	91	38	0	77	115	24
14	151	41	0	271	312	161
15	152	25	0	129	154	2
16	266	30	43	36	109	(157)
17	246	62	155	82	299	53
18	83	33	0	147	180	97
19	139	50	0	146	196	57
20	5	23	0	9	32	27
21	30	34	0	50	84	54
22	49	56	166	17	239	190
23	252	56	38	25	119	(133)
24	78	41	158	15	214	136
25	52	60	0	99	159	107
26	52	48	0	118	166	114
BLOCK	DEMAND	ON-STREET	PUB OFF-STR	PRI OFF-STR	TOTAL	SURPLUS/ SHORTFALL
		PARKING SUPPLY				
TOTALS	2,875	1,088	819	2,361	4,268	1,393



EXISTING PEAK HOUR PARKING DEFICIENCIES - WEEKDAY, 1PM

Woodland Downtown Area Specific Plan

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TABLE 8
EXISTING PARKING DEMAND, SUPPLY AND SURPLUS/SHORTFALL
IMPACT OF 95% OCCUPANCY
WEEKDAYS - 1PM

BLOCK	DEMAND	PARKING SUPPLY			TOTAL	SURPLUS/ SHORTFALL
		ON-STREET	PUB OFF-STR	PRI OFF-STR		
1	100	37	0	155	192	92
2	129	51	0	241	292	163
3	206	41	165	107	313	107
4	373	87	0	80	167	(206)
5	190	52	36	143	231	41
6	189	44	58	99	201	12
7	89	40	0	91	131	42
8	78	37	0	55	92	14
9	0	24	0	102	126	126
10	0	10	0	24	34	34
11	0	40	0	28	68	68
12	0	28	0	15	43	43
13	91	38	0	77	115	24
14	151	41	0	271	312	161
15	175	25	0	129	154	(21)
16	276	30	43	36	109	(167)
17	312	62	155	82	299	(13)
18	86	33	0	147	180	94
19	146	50	0	146	196	50
20	5	23	0	9	32	27
21	102	34	0	50	84	(18)
22	49	56	166	17	239	190
23	256	56	38	25	119	(137)
24	78	41	158	15	214	136
25	69	60	0	99	159	90
26	52	48	0	118	166	114
BLOCK	DEMAND	PARKING SUPPLY			TOTAL	SURPLUS/ SHORTFALL
		ON-STREET	PUB OFF-STR	PRI OFF-STR		
TOTALS	3,200	1,088	819	2,361	4,268	1,068

occupancy rate of 75 percent (79 percent with practical capacity), three more blocks would have parking deficiencies including all three blocks on the north side of Main Street between Elm and First Streets.

The net result of this analysis is that the current parking supply is adequate to accommodate the rise in demand related to increases in occupancy levels of office, retail, and service uses. However, localized parking shortages will become more widespread and the entire area parking supply will become comfortably full with little room for additional demand.

FUTURE CONDITIONS

Estimates of future parking demand are based exclusively on land use scenarios developed in the *Draft Downtown Specific Plan and Map*.² The map outlines areas in the downtown that are Opportunity Sites/Buildings, Existing and Future Parking facilities, among other items. In addition, the Downtown is split between four sub-areas (A, B, C, D and E) that have general land use types designated for future growth. For example, the B district (which is primarily Main Street frontage) is slated to contain "retail, dining, and entertainment uses" and also offices and housing. No specific mix, square footage, or other data is provided except for proposed set back, lot coverage, height restrictions, and parking requirements.

Based on this information, it is estimated that the proposed Opportunity Sites/Buildings could accommodate an additional 2.9 to 3.9 million sq. ft. on top of the existing 827,700 sq. ft. of uses Downtown assuming that the entire buildable envelope was used. Of these totals, 1.1 million sq. ft. would be located in the two PUDs identified in the Specific Plan between Fifth and East Streets south of Main Street. Between 1 and 1.5 million sq. ft. of new/renovated space could be located in the sub-area along Main Street (MXB1), and between 870,000 and 1.2 million sq. ft. of new or renovated space could be located in the area directly off Main Street (MXB2).

² December, 1991.

Population in Woodland is projected to increase by about 50 percent between 1990 and 2010, while Yolo County is projected to grow 25 percent. As such, it is unlikely that growth in Downtown would come close to absorbing the new potential development permitted in the Specific Plan. Actual growth is more likely to be about 50 percent over the existing 1.4 million sq. ft. (716,000 additional square feet, or about one quarter of the lowest potential growth from the Specific Plan) in the next twenty years. This would increase total square feet of land use in Downtown Woodland from its current 1.4 million sq. ft. to approximately 2.1 million sq. ft. (see Table 9).

As the exact location, type, and size of new projects is unknown, the land use calculations, described below, assume that new development will occur evenly among all designated Opportunity Sites. In reality, some Opportunity/Building Sites will simply re-use existing buildings and not add net square feet to the area.

Land Use Calculation

In order to determine future parking demand, each Opportunity Site/Building was calculated based on the recommended land uses and buildable envelope. In addition, existing land uses within the Opportunity Site/Building were subtracted from the land use inventory.

For example, on the block bounded by Walnut, Main, Elm, and Court Streets, the existing land uses within the Opportunity Site/Building and proposed Future Parking Lot totaled over 94,700 sq. ft.. This area was subtracted from the land use and parking demand calculations. The Opportunity Site/Building on this block consumes all of the block south of Dead Cat Alley, and is within Sub-Area B. The Specific Plan proposes mixed-uses (MX) of retail, entertainment, office, and housing for Sub-Area B along Main Street (this area is referred to as B1, with B2 referring to non-Main Street frontage uses). The proposed mixed-use project could occupy 90 percent of the 88,200 sf site within proposed setbacks (which include zero lot lines for the side

Table 9
FUTURE LAND USE ASSUMPTIONS
Woodland Downtown Area Specific Plan - Parking

Land Use	Existing (square feet)	Future (square feet)
Retail/Service	285,765	477,042
Office	355,039	775,502
Restaurant	70,184	128,817
Cinema	17,550	17,550
Residential	157 ⁽¹⁾	393 ⁽¹⁾
Hotel	---	89,280
Heavy Commercial	131,960	66,702
Car Lot	185,230	---
Library	14,000	14,000
Jail	30,000	30,000
Sports & Community Center	11,000	86,040
Church	33,000	18,000
Vacant	144,111	59,135
Total Square Footage	1,434,839	2,155,068

(1) Dwelling Units

Wilbur Smith Associates; March 1992.

and rear yards), and contain a total of four floors totaling 317,520 sq. ft.. No specific parking requirement is mentioned.

Realistically, Downtown Woodland can absorb roughly one quarter of the potential growth identified in the Specific Plan (about 725,000 additional square feet). Using this approach, the sample site described above would accommodate 63,500 sq. ft. of new uses representing less than 20 percent of the site's capacity.

Future Land Use by Type

Based on this approach to calculating future land use, it is estimated that office use will grow from 355,000 sq. ft. to 775,500 sq. ft. (with over 265,000 located in the PUD), retail will grow from 226,000 sq. ft. to almost 300,000 sq. ft., residential will increase from 126 units to 519 units, service will grow from 59,000 sq. ft. to 184,000 sq. ft., and restaurant from 70,000 sq. ft. to 128,800 sq. ft. (see Table 10).

Future Parking Demand

Future peak hour parking demand in Downtown Woodland, based on the assumption of a 50 percent growth factor, will be almost 5,900 vehicles (see Table 11). Parking demand will grow almost twice as fast as new development largely because new uses (such as retail and restaurants) will have a substantially higher parking generation rate than some of the uses being replaced (such as car lots and heavy commercial).

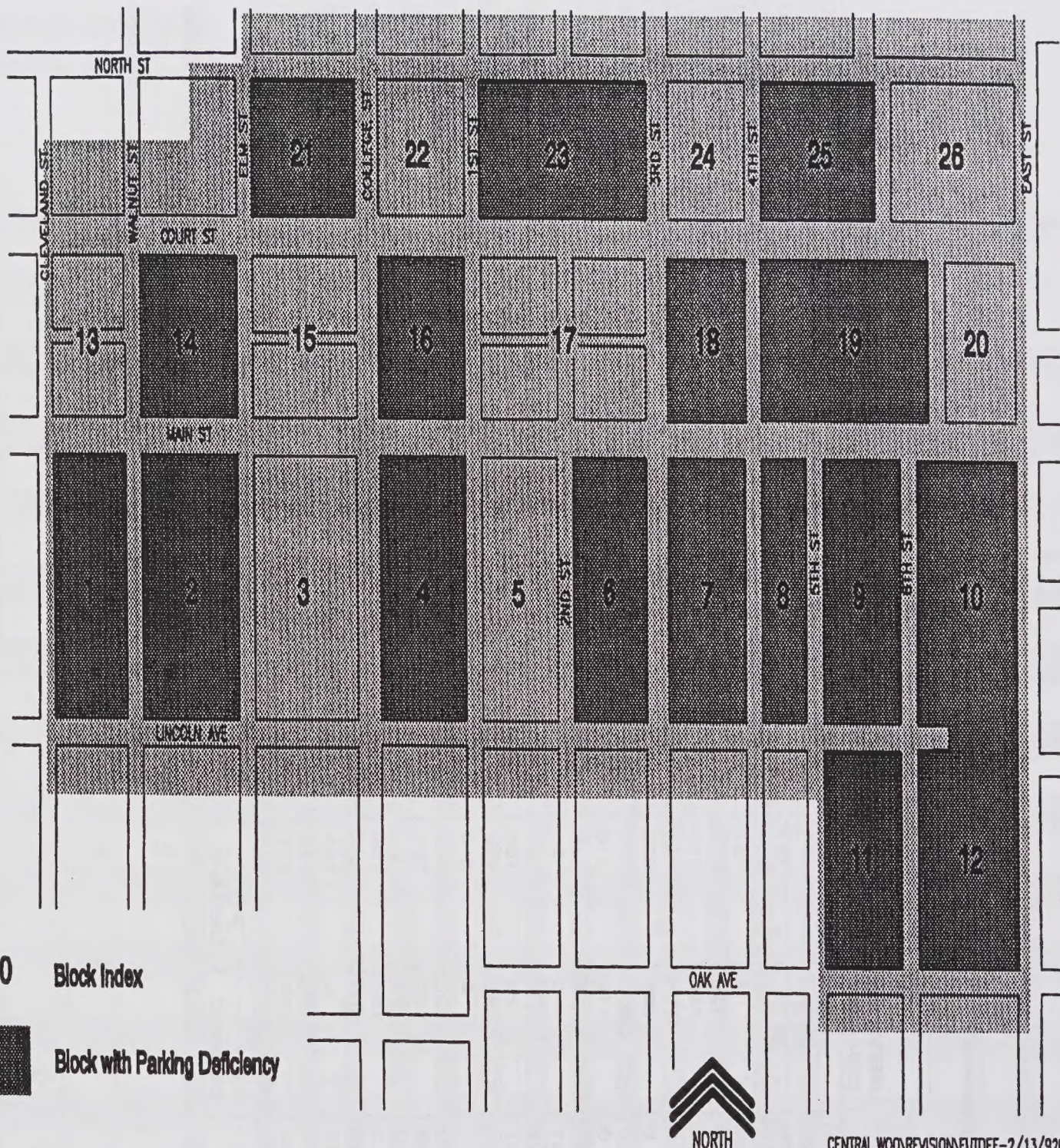
Parking demand from new uses combined with the loss of existing private surface lots will result in a future parking deficiency of at least 2,470 spaces throughout the Downtown, despite the provision of new parking lots. Seventeen of the 26 blocks in the study area will have parking deficiencies, ranging from 75 up to 615 spaces (see Figure 13).

TABLE 10
DOWNTOWN WOODLAND LAND USE MODEL
FUTURE SPECIFIC PLAN - LOW END

BLOCK	THEATRE					HEAVY					SPORTS												
	RETAIL	OFFICE	REST.	CINEMA	RES.	HOTEL	SERVICE	VACANT	COMM.	LOT	LIBRARY	JAIL	CLUB	CHURCH		MXA	MXB1	MXB2	MXC	SFC	MXD	MXE	
1	0	0			11			0	0	0					1		40,320		16,200				
2	1,600	1,950		11,550	22				0	0					2		25,778	43,008					
3	4,125	4,283	0		11		7,835	0	0	0			7,000		3		27,648	19,992					
4	21,437	22,200	11,125		2		15,440	10,817					4,000	3,000	4		5,040	13,104	9,720				
5	25,555	16,184	1,787		1		0	8,311	9,300						5			0					
6	24,654	3,486	3,872		8		4,424	2,500	0					0	6		3,780	22,680	13,500				
7	1,250		0		12										7		19,440	39,200					
8	0		0		0			0							8		26,208	61,152	20,160				
9					0										9						223,200		
10					0										10						223,200		
11					0										11							197,160	
12					0										12							197,160	
13		30,535			8		1,175								13								
14	0	3,000			22		0		0	0				5,000	14		63,504						
15	0	13,210	0		1			2,070	10,600						15		24,336						
16	16,185	25,000	5,800		0			4,600							16		12,240						
17	7,990	55,091	10,835	6,000	0		1,310	29,320							17								
18		0			0			0	0	0					18	10,440	36,720						
19	0	0			0		0	0		0			75,040		19			45,472					
20					0					0					20		25,920						
21	0	0			4		0	0							21	68,000							
22		2,112			0						14,000				22								
23		83,087			0		6,600	1,817						10,000	23								
24	1,148	3,805			0		1,000					30,000			24								
25		3,200	0		8			0							25	19,780			68,850				
26	0				16				13150						26			5,712					
BLOCK	RETAIL	OFFICE	REST.	CINEMA	RES.	HOTEL	SERVICE	VACANT	COMM.	LOT	LIBRARY	JAIL	SPORTS CLUB	CHURCH		MXA	MXB1	MXB2	MXC	SFC	MXD	MXE	
TOTAL	105,821	287,143	33,219	17,550	126	0	37,764	59,135	33,050	0	14,000	30,000	86,040	18,000	351	86,200	310,832	250,320	128,430	0	445,400	394,320	

TABLE 11
FUTURE PARKING DEMAND
WEEKDAYS - 1 PM

BLOCK	EX DEMAND	NEW DEMAND	TOTAL DEMAND	PARKING SUPPLY			TOTAL	SURPLUS/ SHORTFALL
				ON-STREET	PUB OFF-STR	PRI OFF-STR		
1	6	188	195	37	0	12	49	(146)
2	62	219	281	51	65	14	130	(151)
3	83	157	240	41	205	30	276	36
4	249	85	334	87	120	27	234	(100)
5	152	0	152	52	230	10	292	140
6	130	120	250	44	80	30	154	(96)
7	11	186	197	40	95	5	140	(57)
8	0	334	334	37	0	5	42	(292)
9	0	625	625	24	0	0	24	(601)
10	0	625	625	10	0	0	10	(615)
11	0	116	116	40	0	0	40	(76)
12	0	116	116	28	0	0	28	(88)
13	91	0	91	38	0	77	115	24
14	24	222	246	41	115	15	171	(75)
15	51	85	136	25	120	9	154	18
16	153	43	196	30	103	0	133	(63)
17	246	0	246	62	197	10	269	23
18	0	157	157	33	70	0	103	(54)
19	258	136	395	50	0	0	50	(345)
20	0	91	91	23	140	0	163	72
21	2	154	156	34	0	0	34	(122)
22	45	0	45	56	226	0	282	237
23	252	0	252	56	38	25	119	(133)
24	78	0	78	41	158	15	214	136
25	13	254	267	60	0	25	85	(182)
26	28	17	45	48	95	23	166	121
BLOCK	DEMAND	NEW DEMAND	TOTAL DEMAND	PARKING SUPPLY			TOTAL	SURPLUS/ SHORTFALL
				ON-STREET	PUB OFF-STR	PRI OFF-STR		
TOTALS	1,935	3,931	5,866	1,088	2,057	332	3,477	(2,389)



FUTURE PEAK HOUR PARKING DEFICIENCIES

Woodland Downtown Area Specific Plan

The Draft Specific Plan states that most new uses will not be permitted to provide on-site parking, but will rely on centrally located public facilities funded through a parking assessment district. In this way development can be attracted by offering larger development sites and relatively inexpensive, convenient parking. In addition, from an urban design perspective surface lots can be located so as to minimize visual impact and designed in a manner to maximize user safety and convenience.

Parking generation rates used to determine future parking demand reflect the same rates used to match existing demand to existing occupancy counts, and are based both on the ULI Shared Parking Rates and ITE Parking Generation Rates. The rates are shown below by land use.

<u>Land Use</u>	<u>Peak Hour Spaces per 1,000 Gross Square Feet</u>
Office	2.7
Retail	3.4
Restaurant	4.2
Residential	0.59 per unit
Hotel	0.3 per room
Service	3.4
Commercial	1.4

Future growth will displace approximately 870 net spaces (all private off-street) despite construction of several new surface lots. The peak hour demand of almost 5,900 vehicles, combined with the loss of off-street spaces, will result in a peak hour shortfall of about 2,500 spaces. Assuming a 95 percent practical capacity figure, this shortfall would reach 2,640 spaces. Determining the location of future parking facilities is the purpose of this section.

RECOMMENDATIONS

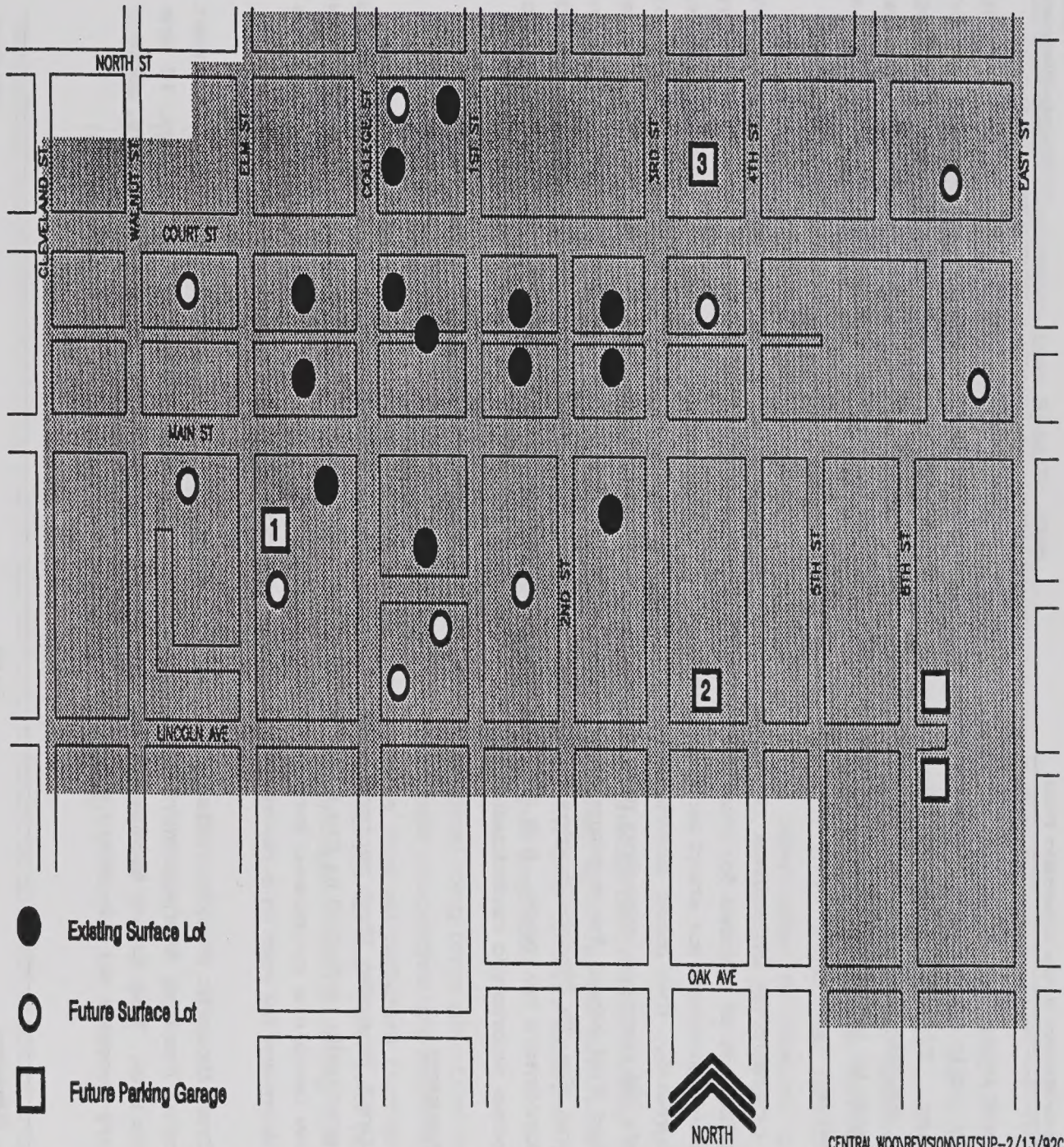
Improvements and additions to the existing parking supply will be required to accommodate future growth. The amount, type, location, use, cost, and other factors are detailed in this section. See Figure 14.

On-Street Parking

The Draft Specific Plan recommends some changes to existing on-street parking along Main Street between Walnut and Fourth Streets. Diagonal (45 degree) parking would be located on the north side of Main Street with an adjacent 14 foot wide lane, while parallel parking would remain on the south side of the street. This system is part of an overall plan to make the downtown a more pedestrian-friendly area.

The proposed angle/parallel scheme will increase on-street parking by approximately 15 percent (or four spaces) per block. This relatively low increase is partially due to the use of every fifth angle space for bicycle storage (or enough for about 24 bicycles per block) and location of mid-block pedestrian neckdowns. Based on anticipated future bicycle storage needs, it is recommended that smaller bike racks (10 bikes) be distributed evenly throughout the downtown. The Draft Specific Plan also shows two travel lanes totaling 26 feet accommodating either two-way or one-way traffic.

From a traffic and safety viewpoint, the proposed angle parking raises several concerns which must be understood. First, extensive traffic studies have shown that accident rates for the proposed angle/parallel parking system are four times higher than for parallel parking only systems. Second, the back-out maneuver from 45-degree parking spaces consumes a minimum of fifteen feet, which would conflict with through traffic in the proposed scheme. According to industry experts, *"angle parking should be limited to streets that function primarily as parking lots."* Given this, the proposed scheme would be acceptable only if traffic volumes and speeds



FUTURE PARKING SUPPLY

Woodland Downtown Area Specific Plan

on Main Street were reduced substantially. The proposed four-way stop signs in the central district would aid in reducing speeds on Main Street which, in turn, would have a small effect on traffic volumes. Signalized intersections could also accomplish this through various timing sequences. Additional reductions in traffic volumes on Main Street would most likely involve major changes in traffic patterns that would go beyond the scope of improvements to the downtown area.

The operational objectives of existing and proposed on-street spaces should be to maximize utilization of spaces for intended users. On-street parking in most of the Downtown area should be reserved for short term or customer parking rather than longer term employee parking. Currently, the most convenient on-street parking has a peak hour occupancy of approximately 65 percent, meaning that spaces are typically available for transient users. It is recommended that when the average occupancy of on-street parking on Main Street between Cleveland and Fourth Streets begins to exceed 80 percent, changes in time restrictions and levels of enforcement be made. It is also recommended that parking meters not be installed as it would oppose economic revitalization goals.

Off-Street Parking

The Draft Specific Plan recommends that privately controlled parking (currently 2,360 spaces) be gradually reduced in the Downtown except for residential and some adjacent land uses. As new uses are proposed for Opportunity Sites/Buildings, the City will require that the parking requirement be met in a nearby joint-use parking facility through an in-lieu-of fee.

The Draft Specific Plan identifies a total of 22 existing or future parking facilities to be part of the proposed Parking Management and Assessment District. Of these 22 facilities, 11 are existing public lots. The future facilities are either expansions of those lots or new lots, almost all of which are located on privately-held land.

The parking management strategy would be to implement the new facilities on an "as needed" basis when new development occurred in the Opportunity Sites/Buildings, financing land acquisition and construction through in-lieu-of fees. Key issues will be the timing of implementation and availability of sites. For example, if a new parking facility is dependent on future nearby development it may be many years before funds are available for purchase, by which time the site might be lost or very expensive. Also, the City may encounter difficulties over the acquisition of private sites for parking facilities and the elimination of existing private parking within Opportunity Sites.

Parking District

A Parking Management and Assessment District should be created based on the findings of this report. The objective of this District will be to develop and finance joint-use parking facilities for the benefit of nearby land owners, and to locate and design facilities that maximize accessibility and minimize negative visual, traffic, and other impacts.

A key element of the District will be to have a rational long term plan that identifies when and where parking facilities will be needed so that adequate properties are secured. This report will locate future parking facilities based on the premise that all deficient demand caused by future growth will be provided in joint-use facilities located no further than two (2) blocks from that parcel. It is also understood that in some circumstances on-site parking will be allowed if it is:

- (a) Pre-existing;
- (b) Located off Main Street,
- (c) Necessary for economic reasons;
- (d) For residential use; or
- (e) Part of a Planned Unit Development (PUD).

Parking Facilities

New or combined parking lots and existing parking lots totaling about 2,057 spaces are proposed in the *Draft Specific Plan Map* to serve a peak hour demand (excluding existing residential uses) of over 3,800 vehicles. Unless more land is dedicated to surface parking facilities, most future development will not be viable from a parking standpoint.

Of the 22 parking facility sites identified, 18 will be existing, expanded, or new surface lots. The existing and proposed lots contain 2,050 spaces, of which 819 are currently publicly controlled and the remainder either privately controlled or not constructed. It is recommended that these lots be designed according to industry standards (90-degree parking, 24 foot aisles, two-way circulation), City code for setbacks, and an overall urban design plan for screening and setbacks. Controlled or permit parking may be required in some areas where employee parking demand is high, otherwise the lots should be unrestricted.

Parking structures will be needed to supplement the proposed surface lots at central locations where multiple land uses can benefit from access, utilization will be high, and the cost per vehicle will be relatively low.

A total of four small public parking structures, located on existing or proposed surface lots (see Figure 14) and no more than forty feet high, will be required to meet future growth to the year 2010 in Downtown Woodland. It is important to note that the need for garages will be triggered by future development. Should a heavy concentration of development occur on any of the Opportunity Sites rather than be reasonably dispersed, the need for structured spaces will change.

- o **Structure #1** - The first public structure (**Structure #1**) will be located on the existing and proposed lots on the block bounded by Elm, Main, College, and Lincoln. The structure will serve 173,000 additional sq. ft. of Sub-Area B and C mixed-uses, plus a theatre and limited existing retail, office, and other uses. The total future parking shortfall for the area (Blocks 1-3) is 260 spaces. This could be accommodated in a two-level structure on a 40,000 square foot site (220 by 180 feet) on the existing and proposed parking lots.
- o **Structure #2** - The second public structure (**Structure #2**) will be located on the proposed surface lot on Block 7, bounded by Third, Main, Fourth, and Lincoln Streets. The structure will serve blocks 6, 7 and 8 containing 275,000 additional sq. ft. of Sub-Area B and C mixed-uses. All three blocks are slated as Opportunity Sites in the Draft Specific Plan. Currently, the blocks contain about 70,000 sq. ft. of mostly retail uses. The total future parking shortfall for the area is 450 spaces. This could be accommodated in a four-level garage on a 48,000 sq. ft. site that would consume the proposed parking lot between Third and Fourth Streets plus approximately 100 feet of additional land within the Opportunity Site. This garage would directly abut existing single family residential uses.
- o **Structure #3** - The third public structure (**Structure #3**) will be located on the existing permit lot on Block 24, bounded by Third, North, Fourth, and Court Streets. The structure will serve blocks 17, 18, 19, 23, 24, and 25 containing 181,000 additional square feet of Sub-Area A, B and C mixed-uses, 145,000 sq. ft. of existing office (mostly government), and various other uses. The total future parking shortfall for the area is 350 spaces. Assuming that some surface parking would be provided with the community center facilities on Block 19, the shortfall is closer to 280 spaces. This could be accommodated in two garages on the existing 50,000 sq. ft. lot.

The two PUDs (bounded by Main, East, Oak and Sixth Streets) are projected to have medium-density mixed-use developments (average FAR of 1.17) that have a combined parking demand of 1,500 spaces. These spaces should be accommodated on-site in a shared parking arrangement between office and residential uses in order to minimize the spaces needed. If these 1,500 spaces were constructed as surface lots, they would consume 495,000 sq. ft. or almost 70 percent of the site. It is recommended that two privately built three-level structures be

located adjacent to each other on each parcel with access off of Fifth Street. Each structure would consume 80,000 sq. ft. of land or about 20 percent of the site.

Improvement Cost

Implementation costs include land acquisition and construction of either surface or structured parking facilities. As land cost varies from block to block and is subject to change over time, it is left out of the calculation.

As mentioned previously, the Draft Specific Plan identifies 22 parking sites totaling 2,060 spaces. Of this, 819 spaces are existing public lots. The remaining 1,241 spaces are generally undeveloped surface lots or existing private lots.

It is assumed that the City will phase parking improvements as growth occurs in the Downtown. The first phase (Phase I) would include purchase of private land for public lots under the Parking Assessment and Management District. Currently, the cost of constructing or reconstructing a surface lot to City standards is between \$1,500 and \$3,000 per space, depending on many factors such as extent of landscaping, and existing surface and sub-surface conditions. Given this, the total Phase I construction cost would range between \$1.86 and \$3.72 million. Land cost could add another \$5 to \$15 per square foot or another \$3.4 to \$10.2 million, bringing the total up to between \$5.26 to \$13.9 million.

The three proposed public garages would be implemented in Phase II, when demand warranted. The facilities will total about 1,400 new or reconstructed spaces and cost between \$8.4 and \$14.0 million in current dollars. The total Phase I and II cost would be between \$13.6 and \$27.9 million.

All parking improvements would be financed by new development in the Opportunity Sites/Buildings and by some existing uses. In many cases, parking lots that serve existing uses will be part of future joint-use public lots and will not cost those landowners. Assuming that new uses will pay for parking improvements, that most land costs will be reduced in half by simple exchanges of control of surface lots, and that all improvements are financed at 8 percent for 30 years, the average monthly cost per parking space will be between \$220 and \$270 per space, assuming that the value of the existing public lots is not included.

IV. RAILROADS

Setting

Two railroad companies currently serve Woodland. The Southern Pacific West Valley Mainline runs directly parallel to East Street through the heart of Woodland. To the north of town, the SP has several branch lines that serve industrial users on both sides of I-5. The Union Pacific operates the former Sacramento Northern branch line that terminates near the junction of Main Street and East Street. This east-west line serves several industries located north of East Main Street and, as it does not impact traffic in the study area, was not studied further in this report.

The Southern Pacific station and yards currently have been phased out of active use, with the former yard becoming an important development opportunity at the edge of Downtown Woodland.

Perhaps the most important aspect of rail operations in this study is the impact on traffic and circulation. Train operations have a special impact on Woodland as all major east-west arterials are at-grade and even temporary blockages create havoc with traffic. Compounding this problem, East Street lacks left turn lanes at many crossings, causing added traffic congestion.

Existing Conditions

Currently, Southern Pacific operates from three to four through train movements in each direction every day. While these long trains slow to 25 mph at times (and 10 mph if there are slow orders) through town, they do not ordinarily stop in Woodland unless there is a mechanical problem with the train or problems with the track. When these long trains (up to 100 plus cars) do stop in Woodland, they effectively slice the town in half and bring all traffic to a halt.

Southern Pacific also has two local freight movements that impact traffic. One local (the Woodland turn) leaves the Roseville yard around 11:30 AM and arrives in Woodland via Davis in the early afternoon, bringing up to 45 cars. It is useful to note that the Woodland area is one of the fastest growing sources of train loadings for SP in the Central Valley. The SP also operates a Woodland "local" that delivers and picks up cars that the Woodland turn has brought from Roseville. The time of day that this local operates is dictated largely by the needs of the various on-line industries.

Conversations with the Southern Pacific indicate that they are aware of the occasional delays to traffic that their trains cause in Woodland. They speculated that most of the delays were caused by through trains that had to stop on an emergency basis and caused major problems in town, rather than from the local trains. Local trains make every effort, according to the SP, to not block major crossings such as Main Street or Gibson Road.

Observed train movements during the survey period confirmed some of the information received from the Southern Pacific. From roughly 4:30 PM to 5:00 PM on one afternoon, a local switcher blocked Main Street four times for from less than one minute to up to five minutes. These short periods of blockage caused immediate congestion at the grade crossings, particularly for left-turning traffic on East Street that was unable to completely clear during the green phase after the crossing opened.

The switching activity has another side effect that impacts traffic safety. Drivers in Woodland, evidently familiar with the train movements, begin to weave through the closed crossing arms rather than wait for the crossing to open. The result is a series of dangerous maneuvers as cars avoid each other, the crossing arms, and the train.

Several issues became evident as a result of the observation period. First, local switching appears to be the main problem in Woodland because (a) it disrupts traffic and (b) it occurs during the peak period (4:00 PM to 5:00 PM). Added to this is a signal problem with the SP

tracks that does not allow a stationary train to open a crossing while it switches nearby. The SP also has a built-in problem as the growing Woodland area receives more cars that must be switched (with the current track configuration) in the Downtown area.

In addition, the traffic signals on East Street may not be optimized to allow for left-turn bays to clear completely after a crossing opens up. East Street north-south traffic is favored after rail crossings are opened rather than left-turning traffic, resulting in many vehicles being forced to wait through several signal phases.

Based on the train movements during the observation period, it can be estimated that train activity during the peak periods consume approximately 10 percent of the crossing's capacity. For example, train activity that blocks the critical movements at the East Street/Main Street intersection for ten minutes during the PM peak hour lowers the effective level of service from LOS C (V/C 0.70) to LOS C (V/C 0.76). More importantly, in ten minutes over 120 eastbound vehicles can back up Main Street by over 1,500 feet. Northbound left-turning vehicles can stack up over 700 feet, blocking some through movements.

The impact of the train activity appears to cause short term congestion, which in turn causes user frustration and unsafe weaving around crossing guards. While not observed during the survey period, a through train blockage of town would be much more severe and cause serious traffic hazards as vehicles attempted to find routes around the train.

Diverted traffic around trains that have temporarily blocked an intersection can cause severe short term problems. For example, when Main Street is blocked by a train to the south, up to 200 vehicles in ten minutes may decide to use Court Street as a temporary detour. This volume can quickly overburden the capacity of the intersection. Diverted traffic may feed through residential neighborhoods south of Downtown as well, causing safety concerns on normally quiet streets.

This statement in the *Street Master Plan* appears to still hold true: "(...) Train blockages during peak hours can cause substantial congestion and delay. (...) A grade-separation of Main Street over the railroad tracks (as well as the adjacent East Street) should be considered as a long-term project."

Future Conditions

Southern Pacific train activity through Woodland is not expected to decrease in the foreseeable future, and may increase. As east-west traffic grows in the central Woodland area, the impact of rail crossing closures will result in much worsened traffic conditions. For example, the East Street/Main Street intersection may have over 400 vehicles stacked up for several blocks that may take up to twenty minutes to clear once the crossing has opened.

Capacity at the four key rail crossings can be increased to help minimize traffic delays in the short run. Traffic signals should be redesigned to permit longer phases for northbound left-turn traffic and for eastbound and westbound through and right-turn traffic. This may be accomplished by installation of detector loops at specific locations that trigger the extended phases. This modification should be applied to all four crossings at Main Street, Gibson Street, Beamer Street, and East Gum Avenue.

Additional northbound left-turn storage lanes will decrease the impact of stacking traffic on through movements, but will require purchase of additional right of way. The existing northbound left-turn lane at Main Street/East Street has a capacity for seven vehicles before through traffic is impacted, even though thirty vehicles may stack up here when the crossing is closed. Before investing in the purchase of additional land, the impact of new circulation schemes should be understood.

It is more likely that existing rail crossing equipment can be altered to minimize unnecessary grade closures, particularly during switching movements. Crossing guards are activated by one of two types of equipment, motion detectors and timed detectors. When a local train stops beyond a crossing, the guards are timed to open after a certain elapsed period. This period is set by PUC standards. Assuming that improved equipment will reduce grade closures, the City will pay for the improvements and the changes do not have a negative impact on rail operations, there should be no objection by the Southern Pacific.

Perhaps the most effective solution is to move switching operations north or south of town. Currently there is a 4,895 foot siding located in Downtown Woodland where switching activity occurs. Moving switching activity north of I-5 closer to the industrial area would involve lengthening the existing siding. The nearest siding to the south is a 4,985 foot siding at Merritt, about four miles south of Woodland. Should this be too far south, an intermediate siding could be constructed closer to Woodland. The cost for constructing a new 5,000 foot siding would be between \$125,000 and \$175,000, assuming there is sufficient existing right-of-way. If this is deemed an effective solution, the City should meet with Southern Pacific representatives to discuss the feasibility of this alternative.

The need for a grade separation is not demonstrated within the scope of this project. Depending on cumulative growth in local and through traffic volumes, and the distribution of traffic based on the adopted circulation plan, grade separation may be required at Main Street and Gibson Street. To a great extent the need for grade separated crossings at these locations is dependent on whether a Woodland parkway is constructed that allows through and crosstown traffic to bypass Downtown.

Although not part of this study, examination of cumulative impacts does indicate the need for grade separation at Main Street if no parkway is built. By using the DKS Associates MINUTP model for cumulative conditions, the Main Street/East Street intersection is projected to drop to LOS F (V/C 1.32) with almost 5,000 peak hour vehicles. A ten minute closure of Main Street by

a train would result in a backup of over 580 vehicles, with traffic stacked up Main Street almost 3,000 feet.

Several types of grade separated crossings were evaluated at the Main Street/East Street intersection. It is assumed that grade separation would be achieved by constructing a bridge over the tracks, as moving the tracks or submerging the road would be cost prohibitive. The key problem is the need to connect both northbound left turn traffic on East Street with westbound through traffic on Main Street to any bridge crossing the Southern Pacific tracks. The same holds true for eastbound right-turn and through traffic. For example, a bridge extension of Court Street that connects with East Main Street at Thomas Street would serve westbound vehicles, but not address northbound left turn or eastbound right turn vehicles.

The ultimate solution may be to construct a bridge on Main Street over the tracks which serves only through east and westbound traffic, which accounts for 70 percent of all cumulative peak hour traffic that must cross the tracks. The remaining 30 percent would continue to use an at-grade crossing.

Relocating the tracks from Downtown Woodland was explored on a conceptual level with rail experts. Relocating the line has several benefits, including eliminating the impact on Downtown traffic and making available for development a substantial amount of valuable real estate. However, other issues make relocation less attractive, and are listed below.

- o The City would have to purchase and resell the right-of-way and construct the relocated line, which would be costly and involve many environmental hurdles;
- o The relocated line would not offer Southern Pacific any operational advantages;
- o Due to projected population growth in the Woodland area, the relocated line would probably encounter many of the same problems experienced Downtown in the long term; and

- o The existing railroad is located in a transportation corridor that, in many ways, is probably a better location than in residential areas.

It is recommended that the City meet with Southern Pacific representatives to discuss (a) future operational plans for the line, (b) the potential to relocate switching activity, and (c) discuss the long term possibility of relocating the line and possible re-use of the existing right-of-way.

Transit Station Locations

The State of California, Department of Transportation *Application for FY 1991/92 Transit Capital Improvement (TCI) Program Funds*¹ prepared by the City of Woodland and City of Davis details proposed rail passenger service between the two cities. The service would connect two Woodland stations (one near Gibson Street and one near Main Street) with one station in Davis and AMTRAK rail passenger service.

The two proposed stations in Woodland would be approximately one mile apart along the existing Southern Pacific right-of-way. Both stations would consist of small shelters with a ticket agent available at the Main Street station, passenger drop off areas, and parking areas. Between 480 and 960 passengers per day would use the service, translating into between 270 and 550 vehicle trips and a need for between 200 and 300 parking spaces plus storage for a minimum of 50 bicycles.

The Gibson Road station will be no more than a shelter located directly to the north or south of Gibson Road. The train will stop directly on the mainline as no siding is available here. Parking may be provided between the mainline and East Street, where a strip of land approximately 30 feet wide exists. Access would be via two driveways located a minimum of 50

¹ November 14, 1990.

feet from any intersection. Arrangements to lease parking spaces may also be made with the adjacent shopping center.

The obvious location for the new Main Street station is the old Woodland station, located due south of Main Street. The Draft Specific Plan identifies this area as a Planned Unit Development (PUD) with a mixture of uses including possibly a train museum. The station could be restored and converted into a combination museum, waiting area, and ticket office. It is recommended that a new siding be constructed approximately 500 feet south of the station on the west side of the mainline, allowing trains to pull off the mainline and stop adjacent the station next to a concrete boarding platform. It would also allow rail equipment to be stored and maintained in a safe, controlled area.

A parking lot containing approximately 150 to 200 spaces should be provided adjacent to the station as part of the PUD design. The drop off area should be designed to accommodate three waiting taxis, three buses, and five vehicles. Short term parking should be allowed close to the station for museum visitors.

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